

Specific Procurement Notice

REQUEST FOR BIDS Non-Consulting Services with Rated Criteria (International Open Competitive Bidding)

Employer: Department of Surface Transport (DoST), Ministry of Infrastructure and Transport (MoIT) represented by DGPC

Project: Accelerating Transport and Trade Connectivity in Eastern South Asia Phase 2 - Bhutan Project

Contract title: Carrying Out Exploratory Core Drilling and Associated Tests for Chamkharchhu II Hydropower Project, Zhemgang Dzongkhag and Chamkharchhu IV Hydropower Project, Bumthang Dzongkhag

Country: Bhutan

Loan No. /Credit No. / Grant No.: IDA-E4310

RFB No: DGPC/ACCESS/DRILLING/CHAMII&IV/2026/21

Issued on: September 28, 2026

1. The Department of Surface Transport (DoST), Ministry of Infrastructure and Transport (MoIT), Royal Government of Bhutan (hereinafter called “Recipient”) has received financing from the World Bank toward the cost of the Accelerating Transport and Trade Connectivity in Eastern South Asia Phase 2 - Bhutan Project. Part of the project is being implemented by the Druk Green Power Corporation Limited (the “Client”). The Client intends to apply part of the proceeds toward payments under the contract for Carrying out Exploratory Core Drilling and Associated Tests for Chamkharchhu II Hydropower Project (HPP), Zhemgang Dzongkhag and Chamkharchhu IV HPP, Bumthang Dzongkhag.
2. The Department of Surface Transport (DoST), Ministry of Infrastructure and Transport (MoIT) now invites sealed Bids from eligible Bidders for carrying out Exploratory Core Drilling and Associated Tests as under:

Lot	Contract Identification	Delivery period
Lot I	Exploratory Core Drilling and Associated Tests at Head Works and HRT for Chamkharchhu II HPP	315 days
Lot II	Exploratory Core Drilling and Associated Tests at Head Works and Powerhouse for Chamkharchhu II HPP	270 days
Lot III	Exploratory Core Drilling and Associated Tests at Head Works and HRT for Chamkharchhu IV HPP	315 days
Lot IV	Exploratory Core Drilling and Associated Tests at Head Works and Powerhouse for Chamkharchhu IV HPP	300 days

The location of services will be Chamkharchhu II Hydropower Project, Zhemgang Dzongkhag and Chamkharchhu IV Hydropower Project, Bumthang Dzongkhag.

3. Bidding will be conducted through International Open Competitive procurement using a Request for Bids (RFB) as specified in the World Bank's "Procurement Regulations for IPF Borrowers", Fifth Edition, September 2023 ("Procurement Regulations").
4. Bids will be evaluated in accordance with the evaluation process set out in the bidding documents. The following weightings shall apply for Rated Criteria (including technical and non-price factors): *40% for Technical and 60% for Financial*.
5. Interested eligible Bidders may obtain further information from DGPC, contact person Ms. Sonam Choden, during office hours from 0900 to 1700 hours at the address given below.
6. Bids must be delivered to the address below on or before 3.00 pm Bhutan Standard Time (BST) on November 9, 2026. Electronic Bidding will not be permitted. Late Bids will be rejected. The outer Bid envelopes marked "ORIGINAL BID", and the inner envelopes marked "TECHNICAL PART" will be publicly opened in the presence of the Bidders' designated representatives and anyone who chooses to attend, at the address below on November 9, 2026 at 3.30 pm (BST). All envelopes marked "FINANCIAL PART" shall remain unopened and will be held in safe custody of the Employer until the second public Bid opening.
7. All Bids must be accompanied by a "*Bid Security*" as under:
 - i. Lot I: Exploratory Core Drilling and Associated Tests at Head Works and HRT for Chamkharchhu II HPP: USD 3,000 (United States Dollar Three Thousand) only or equivalent BTN 239,000.00
 - ii. Lot II: Exploratory Core Drilling and Associated Tests at HRT and Powerhouse Chamkharchhu II HPP: USD 2,000 (United States Dollar Two Thousand) only or equivalent to BTN 207,000.00
 - iii. Lot III: Exploratory Core Drilling and Associated Tests at Head Works and HRT for Chamkharchhu IV HPP: USD 2,000 (United States Dollar Two Thousand) only or equivalent to BTN 204,000.00
 - iv. Lot IV: Exploratory Core Drilling and Associated Tests at HRT and Powerhouse for Chamkharchhu IV HPP: USD 2,000 (United States Dollar Two Thousand) only or equivalent to BTN 226,000.00
8. The address referred to above is:

Druk Green Power Corporation Limited
Kind Attention: Sonam Choden
Contracts Section, Projects and Contract Department,
Thimphu-11001: Bhutan
Tel No: 00975-2-339875
Email: dgpccotenders@drukgreen.bt
Website: www.drukgreen.bt

Request for Bids

Non-Consulting Services

(Two Envelope with Rated Criteria- International Open Competitive Bidding)

Procurement of: Carrying Out Exploratory Core Drilling and Associated Tests for Chamkharchhu II Hydropower Project and Chamkharchhu IV Hydropower Project, Bhutan

RFB No: DGPC/ACCESS/DRILLING/CHAMII&IV/2026/21

Project Accelerating Transport and Trade Connectivity in Eastern South Asia Phase 2 - Bhutan Project

Employer: Department of Surface Transport (DoST), Ministry of Infrastructure and Transport (MoIT) represented by DGPC

Country: Bhutan

Issued on: September 28, 2026

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Part I – Bidding Procedures

Section I - Instructions to Bidders

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Section I - Instructions to Bidders

A. General

1. **Scope of Bid**
 - 1.1 In connection with the Specific Procurement Notice - Request for Bids (RFB), specified in the Bid Data Sheet (BDS), the Employer, as specified in the BDS, issues this bidding document for the delivery of Non-Consulting Services, as specified in Section VII, Employer's Requirements. The name, identification and number of lots (contracts) of this RFB procurement are specified in the BDS.
 - 1.2 Throughout this bidding document:
 - (a) the term "in writing" means communicated in written form (e.g. by mail, e-mail, fax, including if specified in the BDS, distributed or received through the electronic-procurement system used by the Employer) with proof of receipt;
 - (b) if the context so requires, "singular" means "plural" and vice versa; and
 - (c) "Day" means calendar day, unless otherwise specified as "Business Day". A Business Day is any day that is an official working day of the Borrower. It excludes the Borrower's official public holidays;
 - (d) "ES" means environmental and social, as applicable, (including Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH));
 - (e) "Sexual Exploitation and Abuse" "(SEA)" means the following:

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

Sexual Abuse is defined as the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions.
 - (f) "Sexual Harassment" "(SH)" is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature by the Service Provider's Personnel with other Service Provider's or Employer's Personnel;

- (g) “Service Provider’s Personnel” is as defined in GCC Sub-Clause 1.1; and
- (h) “Employer’s Personnel” is as defined in GCC Sub-Clause 1.1.

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

- 1.3 The successful Bidder will be expected to complete the performance of the Services by the Intended Completion Date provided in the BDS.
- 2. **Source of Funds**
 - 2.1 The Borrower or Recipient (hereinafter called “Borrower”) specified in the BDS has applied for or received financing (hereinafter called “funds”) from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called “the Bank”) in an amount specified in the BDS, toward the project named in the BDS. The Borrower intends to apply a portion of the funds to eligible payments under the contract for which this bidding document is issued.
 - 2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank in accordance with the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the loan account for the purpose of any payment to persons or entities, or for any import of goods, equipment or materials if such payment or import is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).
- 3. **Fraud and Corruption**
 - 3.1 The Bank requires compliance with the Bank’s Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG’s Sanctions Framework, as set forth in Section VI.
 - 3.2 In further pursuance of this policy, Bidders shall permit and shall cause their agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit the Bank to inspect all accounts, records and other documents relating to any initial selection process, prequalification process, bid submission, proposal submission and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

4. Eligible Bidders

- 4.1 A Bidder may be a firm that is a private entity, a state-owned entity or institution subject to ITB 4.6, or any combination of such entities in the form of a Joint Venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Bidding process and, in the event the JV is awarded the Contract, during contract execution. Unless specified in the BDS, there is no limit on the number of members in a JV.
- 4.2 A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this Bidding process, if the Bidder:
- (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
 - (b) receives or has received any direct or indirect subsidy from another Bidder; or
 - (c) has the same legal representative as another Bidder; or
 - (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the Bid of another Bidder, or influence the decisions of the Employer regarding this Bidding process; or

- (e) or any of its affiliates participated as a consultant in the preparation of the Employer's Requirements (including Activities Schedules, Performance Specifications and Drawings) for the Non-Consulting Services that are the subject of the Bid; or
 - (f) or any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower for the Contract implementation; or
 - (g) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
 - (h) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding document or specifications of the contract, and/or the Bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the Contract.
- 4.3 A firm that is a Bidder (either individually or as a JV member) shall not participate in more than one Bid, except for permitted alternative Bids. This includes participation as a subcontractor. Such participation shall result in the disqualification of all Bids in which the firm is involved. A firm that is not a Bidder or a JV member, may participate as a sub-contractor in more than one Bid.
- 4.4 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.8. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or subconsultants for any part of the Contract including related Services.
- 4.5 A Bidder that has been sanctioned by the Bank, pursuant to the Bank's Anti-Corruption Guidelines, and in accordance with its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework as described in Section VI paragraph

2.2 d., shall be ineligible to be prequalified for, initially selected for, bid for, propose for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address specified in the BDS.

- 4.6 Bidders that are state-owned enterprises or institutions in the Employer's Country may be eligible to compete and be awarded a Contract(s) only if they can establish, in a manner acceptable to the Bank, that they: (i) are legally and financially autonomous; (ii) operate under commercial law; and (iii) are not under supervision of the Employer.
- 4.7 A Bidder shall not be under suspension from Bidding by the Employer as the result of the operation of a Bid-Securing Declaration or Proposal-Securing Declaration.
- 4.8 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.
- 4.9 This Bidding is open for all eligible Bidders, unless otherwise specified in ITB 18.4.
- 4.10 A Bidder shall provide such documentary evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request.
- 4.11 A firm that is under a sanction of debarment by the Borrower from being awarded a contract is eligible to participate in this procurement, unless the Bank, at the Borrower's request, is satisfied that the debarment; (a) relates to fraud or corruption, and (b) followed a judicial or administrative proceeding that afforded the firm adequate due process.

**5. Qualification
of the Bidder**

- 5.1 All Bidders shall provide in Section IV, Bidding Forms, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.
- 5.2 In the event that prequalification of Bidders has been undertaken as stated in ITB 18.4, the provisions on qualifications of the Section III, Evaluation and Qualification Criteria shall not apply.

6. Sections of Bidding Document

- 6.1 The bidding document consists of Parts 1, 2, and 3, which include all the sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 9.

PART 1: Bidding Procedures

- Section I - Instructions to Bidders (ITB)
- Section II - Bid Data Sheet (BDS)
- Section III - Evaluation and Qualification Criteria
- Section IV - Bidding Forms
- Section V - Eligible Countries
- Section VI - Fraud and Corruption

PART 2: Employer's Requirements

- Section VII - Employer's Requirements

PART 3: Contract

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

- 6.2 The Specific Procurement Notice - Request for Bids (RFB) or the notice to prequalified Bidders, as the case may be issued by the Employer is not part of this bidding document.
- 6.3 Unless obtained directly from the Employer, the Employer is not responsible for the completeness of the document, responses to requests for clarification, the Minutes of the pre-Bid meeting (if any), or Addenda to the bidding document in accordance with ITB 9. In case of any contradiction, documents obtained directly from the Employer shall prevail.
- 6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding document and to furnish with its Bid all information or documentation as is required by the bidding document.

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| 7. Site Visit | 7.1 | The Bidder, at the Bidder's own responsibility and risk, is encouraged to visit and examine the locations of required Services and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for the Services. The costs of visiting the locations of required Services and its surroundings shall be at the Bidder's own expense. |
| 8. Clarification of Bidding Document | 8.1 | A Bidder requiring any clarification of the bidding document shall contact the Employer in writing at the Employer's address specified in the BDS . The Employer will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of Bids within a period specified in the BDS . The Employer shall forward copies of its response 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. If so, specified in the BDS , the Employer shall also promptly publish its response at the web page identified in the BDS . Should the clarification result in changes to the essential elements of the bidding document, the Employer shall amend the bidding document following the procedure under ITB 9 and ITB 23.2. |
| 9. Amendment of Bidding Document | 9.1 | At any time prior to the deadline for submission of Bids, the Employer may amend the bidding document by issuing addenda. |
| | 9.2 | 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. The Employer shall also promptly publish the addendum on the Employer's web page in accordance with ITB 8.1. |
| | 9.3 | To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Employer shall extend, as necessary, the deadline for submission of Bids, in accordance with ITB 23.2 below. |

B. Preparation of Bids

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| 10. Cost of Bidding | 10.1 | The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall not be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process. |
| 11. Language of Bid | 11.1 | 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.

**12. Documents
Comprising the
Bid**

12.1 The Bid shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously in two separate sealed envelopes (two-envelope Bidding process). One envelope shall contain only information relating to the Technical Part and the other, only information relating to the Financial Part. These two envelopes shall be enclosed in a separate sealed outer envelope marked “ORIGINAL BID”.

12.2 The Technical Part shall contain the following:

- (a) **Letter of Bid** -Technical Part, prepared in accordance with ITB 13;
- (b) **Bid Security or Bid-Securing Declaration** in accordance with ITB 20.1;
- (c) **Alternative Bid** - Technical Part: if permissible in accordance with ITB 14, the Technical Part of any Alternative Bid;
- (d) **Authorization:** written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 21.3;
- (e) **Qualifications:** documentary evidence in accordance with ITB 18 establishing the Bidder’s qualifications to perform the Contract if its Bid is accepted;
- (f) **Bidder’s Eligibility:** documentary evidence in accordance with ITB 18 establishing the Bidder’s eligibility to Bid;
- (g) **Conformity:** documentary evidence in accordance with ITB 17, that the Services conform to the bidding document; and
- (h) any other document required **in the BDS**.

12.3 The Financial Part shall contain the following:

- (a) Letter of Bid – Financial Part: prepared in accordance with ITB 13 and ITB 15;
- (b) **Schedule:** Priced Activity Schedule completed in accordance with ITB 13 and ITB 15;
- (c) Alternative Bid - Financial Part: if permissible in accordance with ITB 14, the Financial Part of any Alternative Bid; and
- (d) any other document required **in the BDS**.

12.4 The Technical Part shall not include any information related to the Bid price. Where material financial information related to the Bid

price is contained in the Technical Part the Bid shall be declared non-responsive.

- 12.5 In addition to the requirements under ITB 12.2, Bids submitted by a JV shall include in the Technical Part a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Bid shall be signed by all members and submitted with the Bid, together with a copy of the proposed Agreement.
- 12.6 The Bidder shall furnish in the Letter of Bid- Financial Part information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.
- 13. Letters of Bid and Priced Activity Schedule**
- 13.1 The Letter of Bid - Technical Part, Letter of Bid- Financial Part and Priced Activity Schedule shall be prepared using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 21.3. All blank spaces shall be filled in with the information requested.
- 14. Alternative Bids**
- 14.1 Unless otherwise indicated **in the BDS**, alternative Bids shall not be considered. If alternatives are permitted, only the technical alternatives, if any, of the Most Advantageous Bidder shall be considered by the Employer.
- 14.2 When alternative times for completion 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 III, Evaluation and Qualification Criteria.
- 14.3 14.3 When specified **in the BDS**, Bidders are permitted to submit alternative technical solutions for specified parts of the Services, and such parts will be identified **in the BDS**, as will the method for their evaluating, and described in Section VII, Employer's Requirements.
- 15. Bid Prices and Discounts**
- 15.1 The prices and discounts (including any price reduction) quoted by the Bidder in the Letter of Bid - Financial Part and in the Priced Activity Schedule(s) shall conform to the requirements specified below.
- 15.2 All lots (contracts) and items must be listed and priced separately in the Priced Activity Schedule(s).
- 15.3 The Contract shall be for the Services, as described in Appendix A to the Contract and in the Specifications, based on the Priced Activity Schedule, submitted by the Bidder.

- 15.4 The Bidder shall quote any discounts and indicate the methodology for their application in the Letter of Bid in accordance with ITB 13.1.
 - 15.5 The Bidder shall fill in rates and prices for all items of the Services described in the Specifications, and listed in the Activity Schedule in Section VII, Employer's Requirements. Items for which no rate or price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Priced Activity Schedule.
 - 15.6 All duties, taxes, and other levies payable by the Service Provider under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of Bids, shall be included in the total Bid price submitted by the Bidder.
 - 15.7 If provided for **in the BDS**, the rates and prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract in accordance with and the provisions of Clause 6.6 of the General Conditions of Contract and/or Special Conditions of Contract. The Bidder shall submit with the Bid all the information required under the Special Conditions of Contract and of the General Conditions of Contract.
 - 15.8 For the purpose of determining the remuneration due for additional Services, a breakdown of the lump-sum price shall be provided by the Bidder in the form of Appendices D and E to the Contract.
16. **Currencies of Bid and Payment**
- 16.1 The currency(ies) of the Bid and the currency(ies) of payments shall be the same. The Bidder shall quote in the currency of the Employer's Country the portion of the Bid price that corresponds to expenditures incurred in the currency of the Employer's Country, unless otherwise specified **in the BDS**.
 - 16.2 The Bidder may express the Bid price in any currency. If the Bidder wishes to be paid in a combination of amounts in different currencies, it may quote its price accordingly but shall use no more than three foreign currencies in addition to the currency of the Employer's Country.
 - 16.3 Bidders may be required by the Employer to justify their foreign currency requirements and to substantiate that the amounts included in the Lump-sum are reasonable and responsive to ITB 16.1 and 16.2.
17. **Documents Establishing Conformity of Services**
- 17.1 To establish the conformity of the Non-Consulting Services to the bidding document, the Bidder shall furnish as part of its Bid the documentary evidence that Services provided conform to the technical specifications and standards specified in Section VII, Employer's Requirements.

- 17.2 Standards for provision of the Non-Consulting Services are intended to be descriptive only and not restrictive. The Bidder may offer other standards of quality provided that it demonstrates, to the Employer's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in the Section VII, Employer's Requirements.
18. **Documents**
- Establishing the Eligibility and Qualifications of the Bidder**
- 18.1 To establish Bidder's their eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid, included in Section IV, Bidding Forms.
- 18.2 The documentary evidence of the Bidder's qualifications to perform the Contract if its Bid is accepted shall establish to the Employer's satisfaction that the Bidder meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria.
- 18.3 All Bidders shall provide in Section IV, Bidding Forms, a preliminary description of the proposed methodology, work plan and schedule.
- 18.4 In the event that prequalification of Bidders has been undertaken as stated in **the BDS**, only Bids from prequalified Bidders shall be considered for award of Contract. These qualified Bidders should submit with their Bids any information updating their original prequalification applications or, alternatively, confirm in their Bids that the originally submitted prequalification information remains essentially correct as of the date of Bid submission.
- 18.5 Any change in the structure or formation of a Bidder after being prequalified and invited to Bid, if applicable, (including, in the case of a JV, any change in the structure or formation of any member and also including any change in any specialized subcontractor whose qualifications were considered to prequalify the Applicant) shall be subject to the written approval of the Employer prior to the deadline for submission of Bids. Such approval shall be denied if (i) a Bidder proposes to associate with a disqualified Bidder or in case of a disqualified joint venture, any of its members; (ii) as a consequence of the change, the Bidder no longer substantially meets the qualification criteria; or (iii) in the opinion of the Employer, the change may result in a substantial reduction in competition. Any such change should be submitted to the Employer not later than fourteen (14) days after the date of the notice for RFB sent to the prequalified Bidders.
- 18.6 If prequalification has not taken place before Bidding, the qualification criteria for the Bidders are specified in Section III, Evaluation and Qualification Criteria.

**19. Period of
Validity of Bids**

- 19.1 Bids shall remain valid until the date specified **in the BDS** or any extended date if amended by the Employer in accordance with ITB 9. A Bid that is not valid until the date specified **in the BDS**, or any extended date if amended by the Employer in accordance with ITB 9, shall be rejected by the Employer as nonresponsive.
- 19.2 In exceptional circumstances, prior to the date of expiration of the Bid validity, 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 20, it shall also be extended for a corresponding period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its Bid, except as provided in ITB 19.3.
- 19.3 If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial bid validity specified in accordance with ITB 19.1, the Contract price shall be determined as follows:
- (a) in the case of fixed price contracts, the Contract price shall be the Bid price adjusted by the factor specified **in the BDS**;
 - (b) in the case of adjustable price contracts, no adjustment shall be made; or
 - (c) in any case, Bid evaluation shall be based on the Bid price without taking into consideration the applicable correction from those indicated above.

20. Bid Security

- 20.1 The Bidder shall furnish as part of the Technical Part its Bid, either a Bid-Securing Declaration or a Bid security, as specified **in the BDS**, in original form and, in the case of a Bid Security, in the amount and currency specified **in the BDS**.
- 20.2 A Bid Securing Declaration shall use the form included in Section IV, Bidding Forms.
- 20.3 If a Bid Security is specified pursuant to ITB 20.1, the Bid Security shall be a demand guarantee, and in any of the following forms at the Bidder's option:
- (a) an unconditional guarantee issued by a bank or non-bank financial institution (such as an insurance, bonding or surety company);
 - (b) an irrevocable letter of credit;
 - (c) a cashier's or certified check; or
 - (d) another security specified **in the BDS**,
- from a reputable source and an eligible country. If the unconditional guarantee is issued by a non-bank financial institution located outside the Employer's Country, the issuing non-bank financial institution

shall have a correspondent financial institution located in the Employer's Country to make it enforceable, unless the Employer has agreed in writing, prior to Bid submission, that a correspondent financial institution is not required. In the case of a bank guarantee, the Bid security shall be submitted either using the Bid Security Form included in Section IV, Bidding Forms, or in another substantially similar format approved by the Employer prior to Bid submission. The Bid Security shall be valid for twenty-eight (28) days beyond the original date of expiry of the Bid validity, or beyond any extended date if requested under ITB 19.2.

- 20.4 If a Bid Security is specified pursuant to ITB 20.1, any Bid not accompanied by a substantially responsive Bid Security shall be rejected by the Employer as non-responsive.
- 20.5 If a Bid Security is specified pursuant to ITB 20.1, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the contract and furnishing the Performance Security pursuant to ITB 46.
- 20.6 The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required Performance Security.
- 20.7 The Bid Security may be forfeited:
 - (a) if a Bidder withdraws its Bid prior to the expiry date of the Bid validity specified by the Bidder on the Letter of Bid or any extended date provided by the Bidder; or
 - (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB 45; or
 - (ii) furnish a performance security in accordance with ITB 46.
- 20.8 The Bid Security or Bid-Securing Declaration of a JV must be in the name of the JV that submits the Bid. If the JV has not been legally constituted into a legally enforceable JV at the time of Bidding, the Bid security or Bid-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITB 4.1 and ITB 12.5.
- 20.9 If a Bid Security is not required in the BDS, pursuant to ITB 20.1, and
 - (a) if a Bidder withdraws its Bid prior to the expiry date of the Bid validity specified by the Bidder on the Letter of Bid, or any extended date provided by the Bidder; or
 - (b) if the successful Bidder fails to:

- (ii) sign the Contract in accordance with ITB 45; or
- (iii) furnish a performance security in accordance with ITB 46;

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

21. Format and Signing of Bid

- 21.1 The Bidder shall prepare the Bid, in accordance with this Instruction, ITB 12 and ITB 22.
- 21.2 Bidders shall mark as “CONFIDENTIAL” information in their Bids which is confidential to their business. This may include proprietary information, trade secrets, or commercial or financially sensitive information.
- 21.3 The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as specified **in the BDS** and shall be attached to the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid where entries or amendments have been made shall be signed or initialed by the person signing the Bid.
- 21.4 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.
- 21.5 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Bid.

C. Submission of Bids

22. Sealing and Marking of Bids

- 22.1 The Bidder shall deliver the Bid in two separate, sealed envelopes (the Technical Part and the Financial Part). These two envelopes shall be enclosed in a separate sealed outer envelope marked “Original BID”. In addition, the Bidder shall submit copies of the Bid in the number specified **in the BDS**. Copies of the Technical Part shall be placed in a separate sealed envelope marked “COPIES: TECHNICAL PART”. Copies of the Financial Part shall be placed in a separate sealed envelope marked “COPIES: FINANCIAL PART”. The Bidder shall place both of these envelopes in a separate, sealed outer envelope marked “BID COPIES”. In the event of any discrepancy between the original and the copies, the original shall prevail.

If alternative Bids are permitted in accordance with ITB 14, the alternative Bids shall be submitted as follows: the original of the alternative Bid Technical Part shall be placed in a sealed envelope marked “ALTERNATIVE BID – TECHNICAL PART” and the Financial Part shall be placed in a sealed envelope marked “ALTERNATIVE BID – FINANCIAL PART” and these two separate sealed envelopes then enclosed within a sealed outer envelope marked “ALTERNATIVE BID – ORIGINAL”, the copies of the alternative Bid will be placed in separate sealed envelopes marked “ALTERNATIVE BID – COPIES OF TECHNICAL PART”, and “ALTERNATIVE BID – COPIES OF FINANCIAL PART” and enclosed in a separate sealed outer envelope marked “ALTERNATIVE BID - COPIES”.

22.2 The envelopes marked “ORIGINAL BID” and “BID COPIES” (and, if appropriate, a third envelope marked “ALTERNATIVE BID”) shall be enclosed in a separate sealed outer envelope for submission to the Employer.

22.3 All inner and outer envelopes shall:

- (a) bear the name and address of the Bidder;
- (b) be addressed to the Employer in accordance with ITB 23.1;
- (c) bear the specific identification of this Bidding process specified in accordance with BDS 1.1; and
- (d) bear a warning not to open before the time and date for Bid opening.

22.4 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.

23. **Deadline for Submission of Bids**

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

23.2 The Employer may, at its discretion, extend the deadline for the submission of Bids by amending the bidding document in accordance with ITB 9, 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.

24. **Late Bids**

24.1 The Employer shall not consider any Bid that arrives after the deadline for submission of Bids, in accordance with ITB 23. Any Bid received by the Employer after the deadline for submission of Bids shall be declared late, rejected, and returned unopened to the Bidder.

25. Withdrawal, Substitution and Modification of Bids

- 25.1 A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization (the power of attorney) in accordance with ITB 21.3, (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 21 and ITB 22 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” or “MODIFICATION;” and
 - (b) received by the Employer prior to the deadline prescribed for submission of Bids, in accordance with ITB 23.
- 25.2 Bids requested to be withdrawn in accordance with ITB 25.1 shall be returned unopened to the Bidders.
- 25.3 No Bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of Bids and the date of expiry of the Bid validity specified by the Bidder on the Letter of Bid or any extended date thereof.

D. Public Opening of Technical Parts of Bids

26. Public Bid Opening of Technical Parts of Bids

- 26.1 Except as in the cases specified in ITB 24 and ITB 25.2, the Employer shall, at the Bid opening, publicly open and read out all Bids received by the deadline at the date, time and place specified **in the BDS** in the presence of Bidders’ designated representatives and anyone who choose to attend. Any specific electronic Bid opening procedures required if electronic bidding is permitted in accordance with ITB 23.1, shall be as specified **in the BDS**.
- 26.2 First, envelopes marked “WITHDRAWAL” shall be opened and read out and the envelope with the corresponding Bid shall not be opened but returned to the Bidder. If the withdrawal envelope does not contain a copy of the “power of attorney” confirming the signature as a person duly authorized to sign on behalf of the Bidder, the corresponding Bid will be opened. No Bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Bid opening.
- 26.3 Next, envelopes marked “SUBSTITUTION” shall be opened and read out and exchanged with the corresponding Bid being substituted, and the substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid

authorization to request the substitution and is read out at Bid opening.

- 26.4 Next, envelopes marked “MODIFICATION” shall be opened and read out with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening.
- 26.5 Next, all other envelopes marked “TECHNICAL PART” shall be opened one at a time. All envelopes marked “SECOND ENVELOPE: Financial PART” shall remain sealed and kept by the Employer in safe custody until they are opened at a later public opening, following the evaluation of the Technical Part parts of the Bids. On opening the envelopes marked “TECHNICAL PART” the Employer shall read out: the name of the Bidder, the presence or the absence of a Bid Security, or Bid-Securing Declaration, if required, and whether there is a modification; and Alternative Bid - Technical Part; and any other details as the Employer may consider appropriate.
- 26.6 Only Technical Parts of Bids and Alternative Bid - Technical Parts that are read out at Bid opening shall be considered further for evaluation. The Letter of Bid- Technical Part and the separate sealed envelope marked “SECOND ENVELOPE: FINANCIAL PART” are to be initialed by representatives of the Employer attending Bid opening in the manner specified **in the BDS**.
- 26.7 The Employer shall neither discuss the merits of any Bid nor reject any Bid (except for late Bids, in accordance with ITB 24.1).
- 26.8 The Employer shall prepare a record of the Technical Parts of Bid opening that shall include, as a minimum:
- (a) the name of the Bidder and whether there is a withdrawal, substitution, or modification;
 - (b) the receipt of envelopes marked “SECOND ENVELOPE: FINANCIAL PART”; and
 - (c) if applicable, any alternative Bid- Technical Part;
 - (d) the presence or absence of a Bid Security or Bid-Securing Declaration, if one was required.
- 26.9 The Bidders’ representatives who are present shall be requested to sign the record. The omission of a Bidder’s signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.

E. Evaluation of Bids – General Provisions

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| 27. Confidentiality | <p>27.1 Information relating to the evaluation of the Technical Part shall not be disclosed to Bidders or any other persons not officially concerned with the Bidding process until the notification of evaluation of the Technical Part in accordance with ITB 32. Information relating to the evaluation of Financial Part, the evaluation of combined Technical Part and Financial Part, and recommendation of contract award shall not be disclosed to Bidders or any other persons not officially concerned with the RFB process until the Notification of Intention to Award the Contract is transmitted to Bidders in accordance with ITB 41.</p> <p>27.2 Any effort by a Bidder to influence the Employer in the evaluation or contract award decisions may result in the rejection of its Bid.</p> <p>27.3 Notwithstanding ITB 27.2, 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.</p> |
| 28. Clarification of Bids | <p>28.1 To assist in the examination, evaluation, and comparison of Bids, and qualification of the Bidders, the Employer may, at the Employer's discretion, ask any Bidder for clarification of its Bid including breakdowns of the prices in the Priced Activity Schedule, and other information that the Employer may require. Any clarification submitted by a Bidder in respect to its Bid and 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, including any voluntary increase or decrease, in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids, in accordance with ITB 34.</p> <p>28.2 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.</p> |
| 29. Nonmaterial Nonconformities | <p>29.1 Provided that a Bid is substantially responsive, the Employer may waive any nonmaterial nonconformities in the Bid.</p> <p>29.2 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 of the</p> |

Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

F. Evaluation of Technical Part of Bids

30. Determination of Responsiveness, Eligibility and Qualifications

- 30.1 The Employer's determination of the Technical Part's responsiveness shall be based on the contents of the Bid itself, as specified in ITB 12.
- 30.2 Preliminary examination of the Technical Part shall be carried out to identify proposals that are incomplete, invalid or substantially nonresponsive to the requirements of the Bidding documents. A substantially responsive Bid is one that materially confirms to 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 Non-Consulting 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 Contract; or
 - (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids.
- 30.3 The Employer shall determine to its satisfaction whether the Bidders that have been assessed to have submitted substantially responsive Bids are eligible, and meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.
- 30.4 The determination shall be based upon an examination of the documentary evidence of the Bidder's eligibility and qualifications submitted by the Bidder, pursuant to ITB 18. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the bidding document), or any other firm.
- 30.5 Prior to Contract award, the Employer will verify that the successful Bidder (including each member of a JV) is not disqualified by the Bank due to noncompliance with contractual SEA/SH prevention and response obligations. The Employer will conduct the same verification for each subcontractor proposed by the successful Bidder. If any proposed subcontractor does not

meet the requirement, the Employer will require the Bidder to propose a replacement subcontractor.

- 30.6 Only substantially responsive bids submitted by eligible and qualified bidders shall proceed to the detailed technical evaluation specified in ITB 31.
31. **Detailed Evaluation of Technical Part**
- 31.1 The Employer's evaluation of Technical Part will be carried out as specified in Section III, Evaluation and Qualification Criteria
- 31.2 The scores and weightings to be given to Rated Criteria (including technical and non-price) factors and sub factors) are specified **in the BDS**.

G. Notification of Evaluation of Technical Parts and Public Opening of Financial Parts

32. **Notification of Evaluation of Technical Parts and Public Opening of Financial Parts**
- 32.1 Following the completion of the evaluation of the Technical Parts of the Bids, the Employer shall notify in writing those Bidders whose Bids were considered substantially non-responsive to the bidding document or failed to meet the eligibility and qualification requirements, advising them of the following information:
- (a) the grounds on which their Technical Part of Bid failed to meet the requirements of the bidding document;
 - (b) their envelopes marked "SECOND ENVELOPE: FINANCIAL PART" will be returned to them unopened after the completion of the selection process and the signing of the Contract; and
 - (c) notify them of the date, time and location of the public opening of the envelopes marked "SECOND ENVELOPE: FINANCIAL PART".
- 32.2 The Employer shall, simultaneously, notify in writing those Bidders whose Technical Part have been evaluated as substantially responsive to the bidding document and met the eligibility and qualification requirements, advising them of the following information:
- (a) their Bid has been evaluated as substantially responsive to the bidding document and met the eligibility and qualification requirements;
 - (b) their envelope marked "SECOND ENVELOPE: FINANCIAL PART" will be opened at the public opening of the Financial Parts; and

- (c) notify them of the date, time and location of the second public opening of the envelopes marked “SECOND ENVELOPE: FINANCIAL PART” as specified **in the BDS**.
- 32.3 The opening date shall be not less than ten (10) Business Days from the date of notification of the results of the technical evaluation, specified in ITB 32.1 and 32.2. However, if the Employer receives a complaint on the results of the technical evaluation within the ten (10) Business Days, the opening date shall be subject to ITB 48.1. The Financial Part of the Bid shall be opened publicly in the presence of Bidders’ designated representatives and anyone who chooses to attend.
- 32.4 At this public opening, the Financial Parts will be opened by the Employer in the presence of Bidders, or their designated representatives and anyone else who chooses to attend. Bidders who met the eligibility and qualification requirements and whose bids were evaluated as substantially responsive will have their envelopes marked “SECOND ENVELOPE: FINANCIAL PART” opened at the second public opening. Each of these envelopes marked “SECOND ENVELOPE: FINANCIAL PART” shall be inspected to confirm that they have remained sealed and unopened. These envelopes shall then be opened by the Employer. The Employer shall read out the names of each Bidder, the technical score and the total Bid prices, per lot (contract) if applicable, including any discounts and Alternative Bid - Financial Part, and any other details as the Employer may consider appropriate.
- 32.5 Only envelopes of Financial Part of Bids, Financial Parts of Alternative Bids and discounts that are opened and read out at Bid opening shall be considered further for evaluation. The Letter of Bid – Financial Part and the Priced Activity Schedules are to be initialed by a representative of the Employer attending the Bid opening in the manner specified **in the BDS**.
- 32.6 The Employer shall neither discuss the merits of any Bid nor reject any envelopes marked “SECOND ENVELOPE: FINANCIAL PART” at this public opening.
- 32.7 The Employer shall prepare a record of the Financial Part of the Bid opening that shall include, as a minimum:
 - (a) the name of the Bidder whose Financial Part was opened;
 - (b) the Bid price, per lot (contract) if applicable, including any discounts; and
 - (c) if applicable, any Alternative Bid- Financial Part.
- 32.8 The Bidders whose envelopes marked “SECOND ENVELOPE: FINANCIAL PART” have been opened or their representatives who are present shall be requested to sign the record. The omission of

a 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.

H. Evaluation of Financial Part of Bids

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| 33. Adjustments for Nonmaterial Nonconformities | 33.1 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, by adding the average price of the item or component quoted by substantially responsive Bidders. If the price of the item or component cannot be derived from the price of other substantially responsive Bids, the Employer shall use its best estimate |
| 34. Correction of Arithmetic Errors | 34.1 Provided that the Bid is substantially responsive, the Employer shall correct arithmetic errors on the following basis: <ul style="list-style-type: none"> (a) if there is discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Employer there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected; (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above. 34.2 Bidders shall be requested to accept correction of arithmetic errors. Failure to accept the correction in accordance with ITB 34.1, shall result in the rejection of the Bid. |
| 35. Evaluation Process, Financial Parts | 35.1 To evaluate the Financial Part, the Employer shall consider the following: <ul style="list-style-type: none"> (a) price adjustment for correction of arithmetic errors in accordance with ITB 34.1; (b) price adjustment due to discounts offered in accordance with ITB 15.4; |

- (c) converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with ITB 36;
 - (d) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 33.1;
 - (e) excluding provisional sums and the provision, if any, for contingencies in the Priced Activity Schedule but including Daywork, when requested in the Specifications; and
 - (f) the additional evaluation factors are specified in Section III, Evaluation and Qualification Criteria.
- 35.2 If price adjustment is allowed in accordance with ITB 15.7, the estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.
- 35.3 If this bidding document allows Bidders to quote separate prices for different lots (contracts), each lot will be evaluated separately to determine the Most Advantageous Bid using the methodology specified in in Section III, Evaluation and Qualification Criteria. **Discounts that are conditional on the award of more than one lot or slice shall not be considered for Bid evaluation.**
- 36. **Conversion to Single Currency and Margin of Preference**

 - 36.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted into a single currency **as specified in the BDS.**
 - 36.2 Margin of domestic preference shall not apply.
- 37. **Abnormally Low Bids**

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

I. Evaluation of Combined Technical and Financial Parts, Most Advantageous Bid and Notification of Intention to Award

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| 38. Evaluation of combined Technical and Financial Parts | <p>38.1 The Employer's evaluation of responsive Bids will take into account technical factors, in addition to cost factors in accordance with Section III Evaluation and Qualification Criteria. The weight to be assigned for the Technical factors and cost is specified in the BDS. The Employer will rank the Bids based on the evaluated Bid score (B).</p> <p>38.2 The Employer will determine the Most Advantageous Bid. The Most Advantageous Bid is the Bid of the Bidder that meets the Qualification Criteria and whose Bid has been determined to be substantially responsive to the Bidding document and is the Bid with the highest combined technical and financial score.</p> |
| 39. Employer's Right to Accept Any Bid, and to Reject Any or All Bids | <p>39.1 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.</p> |
| 40. Standstill Period | <p>40.1 The Contract shall not be awarded earlier than the expiry of the Standstill Period. The Standstill Period shall be ten (10) Business Days unless extended in accordance with ITB 44. The Standstill Period commences the day after the date the Employer has transmitted to each Bidder the Notification of Intention to Award the Contract. Where only one Bid is submitted, or if this contract is in response to an emergency situation recognized by the Bank, the Standstill Period shall not apply</p> |
| 41. Notification of Intention to Award | <p>41.1 The Employer shall send to each Bidder (that has not already been notified that it has been unsuccessful), the Notification of Intention to Award the Contract to the successful Bidder. The Notification of Intention to Award shall contain, at a minimum, the following information:</p> <ul style="list-style-type: none"> (a) the name and address of the Bidder submitting the successful Bid; (b) the Contract price of the successful Bid; (c) the total combined score of the successful Bidder; (d) the names of all Bidders who submitted Bids, and their Bid prices as readout and as evaluated and technical scores; (e) a statement of the reason(s) the Bid (of the unsuccessful Bidder to whom the notification is addressed) was unsuccessful; |

- (f) the expiry date of the Standstill Period; and
- (g) instructions on how to request a debriefing or submit a complaint during the standstill period.

J. Award of Contract

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|---------------------------------------|--|
| 42. Award Criteria | 1.1 Subject to ITB 39, the Employer shall award the Contract to the successful Bidder. This is the Bidder whose Bid has been determined to be the Most Advantageous Bid. |
| 43. Notification of Award | <p>43.1 Prior to the date of expiry of the Bid validity and upon expiry of the Standstill Period, specified in ITB 40.1, or any extension thereof, and, upon satisfactorily addressing any complaint that has been filed within the Standstill Period, the Employer shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification of award (hereinafter and in the Conditions of Contract and Contract Forms called the “Letter of Acceptance”) shall specify the sum that the Employer will pay the Service Provider in consideration of the execution of the Contract (hereinafter and in the Conditions of Contract and Contract Forms called “the Contract Price”).</p> <p>43.2 Within ten (10) Business Days after the date of transmission of the Letter of Acceptance, the Employer shall publish the Contract Award Notice which shall contain, at a minimum, the following information:</p> <ul style="list-style-type: none"> (b) name and address of the Employer; (c) name and reference number of the contract being awarded, and the selection method used; (d) names of all Bidders that submitted Bids, and their Bid prices as read out at Bid opening, and as evaluated; (e) name of Bidders whose Bids were rejected and the reasons for their rejection; (f) the name of the successful Bidder, the final total contract price, the contract duration and a summary of its scope; and (g) successful Bidder’s Beneficial Ownership Disclosure Form. <p>43.3 The Contract Award Notice shall be published on the Employer’s website with free access if available, or in at least one newspaper of national circulation in the Employer’s Country, or in the official gazette.</p> <p>43.4 Until a formal Contract is prepared and executed, the Letter of Acceptance shall constitute a binding Contract.</p> |
| 44. Debriefing by the Employer | 44.1 On receipt of the Borrower’s Notification of Intention to Award referred to in ITB 41, an unsuccessful Bidder has three (3) Business Days to make a written request to the Employer for a debriefing. The |

Employer shall provide a debriefing to all unsuccessful Bidders whose request is received within this deadline.

44.2 Where a request for debriefing is received within the deadline, the Employer shall provide a debriefing within five (5) Business Days, unless the Employer decides, for justifiable reasons, to provide the debriefing outside this timeframe. In that case, the standstill period shall automatically be extended until five (5) Business Days after such debriefing is provided. If more than one debriefing is so delayed, the standstill period shall not end earlier than five (5) Business Days after the last debriefing takes place. The Employer shall promptly inform, by the quickest means available, all Bidders of the extended standstill period.

44.3 Where a request for debriefing is received by the Employer later than the three (3)-Business Day deadline, the Employer should provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of Public Notice of Award of contract. Requests for debriefing received outside the three (3)-day deadline shall not lead to extension of the standstill period.

44.4 Debriefings of unsuccessful Bidders may be done in writing or verbally. The Bidder shall bear their own costs of attending such a debriefing meeting.

45. Signing of Contract

45.1 The Employer shall send to the successful Bidder the Letter of Acceptance including the Contract Agreement, and a request to submit the Beneficial Ownership Disclosure Form providing additional information on its beneficial ownership. The Beneficial Ownership Disclosure Form shall be submitted within eight (8) Business Days of receiving this request.

45.2 The successful Bidder shall sign, date and return to the Employer, the Contract Agreement within twenty-eight (28) days of its receipt.

46. Performance Security

46.1 Within twenty-eight (28) days of the receipt of the Letter of Acceptance from the Employer, the successful Bidder, if required, shall furnish the Performance Security in accordance with the GCC 3.9, using for that purpose the Performance Security Form included in Section X, Contract Forms, or another Form acceptable to the Employer. If the Performance Security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Employer. A foreign institution providing a bond shall have a correspondent financial institution located in the Employer's Country, unless the Employer has agreed in writing that a correspondent financial institution is not required.

- 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. In that event the Employer may award the Contract to the Bidder offering the next Most Advantageous Bid.
47. **Adjudicator** 47.1 The Employer proposes the person named **in the BDS** to be appointed as Adjudicator under the Contract, at an hourly fee specified **in the BDS**, plus reimbursable expenses. If the Bidder disagrees with this Bid, the Bidder should so state in the Bid. If, in the Letter of Acceptance, the Employer has not agreed on the appointment of the Adjudicator, the Adjudicator shall be appointed by the Appointing Authority designated in the Special Conditions of Contract at the request of either party.
48. **Procurement
Related
Complaint** 48.1 The procedures for making a Procurement-related Complaint are as specified in the BDS.

Section II - Bid Data Sheet (BDS)

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

ITB Reference	A. General
ITB 1.1	The reference number of the Request for Bids (RFB) is: DGPC/ACCESS/DRILLING/CHAMH&IV/2026/21 The Employer is: Department of Surface Transport (DoST), Ministry of Infrastructure and Transport (MoIT) represented by DGPC The name of the RFB is: <i>Carrying out of Exploratory Core Drilling and Associated Tests for Chamkharchhu II HPP and Chamkharchhu IV HPP</i> The number and identification of lots (contracts) comprising this RFB is: i. Lot I: Exploratory Core Drilling and Associated Tests at Head Works and HRT for Chamkharchhu II HPP ii. Lot II: Exploratory Core Drilling and Associated Tests at HRT and Powerhouse for Chamkharchhu II HPP iii. Lot III: Exploratory Core Drilling and Associated Tests at Head Works and HRT Chamkharchhu IV HPP iv. Lot IV: Exploratory Core Drilling and Associated Tests at HRT and Powerhouse for Chamkharchhu IV HPP
ITB 1.2(a)	Electronic –Procurement System: Not Applicable
ITB 1.3	The Intended Completion Date is i. Lot I: Exploratory Core Drilling and Associated Tests at Head Works and HRT for Chamkharchhu II HPP- 315 days from the date of signing of Contract Agreement ii. Lot II: Exploratory Core Drilling and Associated Tests at HRT and Powerhouse for Chamkharchhu II HPP – 270 days from the date of signing of Contract Agreement iii. Lot III: Exploratory Core Drilling and Associated Tests at Head Works and HRT Chamkharchhu IV HPP – 315 days from the date of signing of Contract Agreement iv. Lot IV: Exploratory Core Drilling and Associated Tests at HRT and Powerhouse for Chamkharchhu IV HPP- 300 days from the date of signing of Contract Agreement

ITB 2.1	The Borrower is: The Royal Government of Bhutan Loan or Financing Agreement amount: USD 300 million (USD 18.4 million under sub-component 3.3: Resilient and Sustainable Regional Infrastructure Planning Support of the ACCESS Bhutan Project) The name of the Project is: ACCESS Bhutan Project Subcomponent 3.3-Resilient and Sustainable Regional Infrastructure Planning Support
ITB 4.1	Maximum number of members in the Joint Venture (JV) shall be: 2
ITB 4.5	A list of debarred firms and individuals is available on the Bank's external website: http://www.worldbank.org/debarr .
	B. Contents of Bidding Document
ITB 8.1	For <u>Clarification of Bid purposes</u> only, the Employer's address is: Attention: Sonam Choden Manager, Contracts Section Address: Thimphu ZIP Code: 11001 Country: Bhutan Electronic mail address: dgpcotenders@drukgreen.bt Web page: www.drukgreen.bt/tender/ Requests for clarification should be received by the Employer no later than: <i>20 days before the deadline for submission of Bid</i>
	C. Preparation of Bids
ITB 11.1	The language of the Bid is: <i>"English"</i>. <i>Bidders shall not submit Bids in more than one language.</i> All correspondence exchange shall be in English language.
ITB 12.2 (h)	The Bidder shall submit the following additional documents in the Technical Part of its Bid: Code of Conduct for Service Provider's Personnel The Bidder shall submit its Code of Conduct that will apply to the Service Provider's Personnel (as defined in GCC Sub- Clause 1.1) employed for the execution of Services (defined in GCC Sub- Clause 1.1) at the locations in the Employer's country where the Services are required, to ensure compliance with the Service Provider's Environmental and/or Social, as applicable, obligations under the Contract. The Bidder shall use for this purpose the Code of Conduct

	form provided in Section IV. No substantial modifications shall be made to this form, except that the Bidder may introduce additional requirements, including as necessary to take into account specific Contract issues/risks.
ITB 12.3 (d)	The Bidder shall submit the following additional documents in the Financial Part of its Bid: None
ITB 14.1	Alternative Bids <i>“shall not be”</i> considered.
ITB 14.2	Alternative times for completion <i>“shall not be”</i> permitted.
ITB 14.3	Alternative technical solutions shall be permitted for the following parts of the Services: No
ITB 15.7	The prices quoted by the Bidder <i>“shall not”</i> be subject to adjustment during the performance of the Contract.
ITB 16.1	The Bidder “is” required to quote in the currency of the Employer’s Country (Ngultrum) the portion of the Bid price that corresponds to expenditures incurred in that currency.
ITB 18.4	Prequalification <i>“has not”</i> been undertaken.
ITB 19.1	The Bid shall be valid until: 120 days
ITB 19.3 (a)	The Bid price shall be adjusted by the following factor(s): a. Foreign currency – 0.5% per annum above SOFR b. Local currency- 5% per annum
ITB 20.1	A Bid Security <i>“shall be”</i> required. A Bid-Securing Declaration <i>“shall not be”</i> required. The amount and currency of the Bid Security shall be: i. Lot I: Exploratory Core Drilling and Associated Tests at Head Works and HRT for Chamkharchhu II HPP: USD 3,000 (United States Dollar Three Thousand) only or equivalent BTN 239,000.00 ii. Lot II: Exploratory Core Drilling and Associated Tests at HRT and Powerhouse for Chamkharchhu II HPP: USD 2,000 (United States Dollar Two Thousand) only or equivalent to BTN 207,000.00 iii. Lot III: Exploratory Core Drilling and Associated Tests at Head Works and HRT for Chamkharchhu IV HPP: USD 2,000 (United States Dollar Two Thousand) only or equivalent to BTN 204,000.00 iv. Lot IV: Exploratory Core Drilling and Associated Tests at HRT and Powerhouse for Chamkharchhu IV HPP: USD 2,000 (United States Dollar Two Thousand) only or equivalent to BTN 226,000.00

	The bid security shall be in the following forms and should be valid upto April 9, 2027 i. Cash Warrant/Demand Draft/Banker's Cheque ii. Unconditional Bank Guarantee as per FORM (Section IV) -issued by a financial institute of Bhutan or any foreign bank acceptable and enforceable in any financial institution of Bhutan.
ITB 20.3 (d)	Other types of acceptable securities: "None"
ITB 20.9	If the Bidder performs any of the actions prescribed in ITB 20.9 (a) or (b), the Borrower will declare the Bidder ineligible to be awarded a contract by the Employer for a period of 2(two) years starting from the date the Bidder performs any of the actions Not applicable
ITB 21.3	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: Valid Power of Attorney to demonstrate signatory to the Bid.
	D. Submission of Bids
ITB 22.1	In addition to the original of the Bid, the number of copies is: One In addition, the technical part to be submitted in flash drive.
ITB 23.1	For <u>Bid submission purposes</u> only, the Employer's address is: Attention: Sonam Choden, Manager, Contracts Section Projects and Contract Department Druk Green Power Corporation Limited City: 11168 Serbi Lam Southeast, Thimphu ZIP/Postal Code: 11001 Country: Bhutan
ITB 23.1	The deadline for Bid submission is: Date: 9 November 2026 Time: 3:00 PM BST Bidders "shall not" have the option of submitting their Bids electronically.
	E. Public Opening of Technical Parts of Bids
ITB 26.1	The Bid opening shall take place at: Office: Contracts Section, DGPC City: <i>Thimphu</i> Country: <i>Bhutan</i> Date: 9 November 2026

	Time: 3:30 p.m. BST																																												
ITB 26.1	The electronic Bid opening procedures shall be: Not applicable																																												
ITB 26.6	The Letter of Bid – Technical Part and the sealed envelope marked “SECOND ENVELOPE: FINANCIAL PART” “ <i>shall</i> ” be initialed by 3 representatives of the Employer conducting Bid opening.																																												
G. Evaluation of Technical Part of Bids																																													
ITB 31.2	The weighting to be given for Rated Criteria (including technical and non-price factors) is: 40 % The technical factors (and sub-factors if any), which for purposes of this document carry the same meaning as Rated Criteria, and the corresponding weight out of 100% are: <table><tr><th>SN</th><th>Criteria</th><th>Weightage (%)</th></tr><tr><td colspan="3">1. Adequacy and quality of the proposed methodology, and work plan in responding to the Terms of Reference</td></tr><tr><td rowspan="2">1.1</td><td>The Client will assess whether the proposed methodology is clear, responds to the ToR</td><td>15</td></tr><tr><td>TORs, work plan is realistic and implementable.</td><td>15</td></tr><tr><td colspan="3">2. Relevant Experience of the Bidder</td></tr><tr><td>2.1</td><td>Cumulative relevant exploratory core drilling length.</td><td>15</td></tr><tr><td>2.2</td><td>Maximum relevant completed borehole depth.</td><td>10</td></tr><tr><td colspan="3">3. KEY PERSONNEL</td></tr><tr><td colspan="3">3.1. Geologist</td></tr><tr><td>3.1.1</td><td>Minimum Bachelors in Geology with minimum field experience of 5 years. Skilled in core logging and carrying out in-situ tests. Proficiency in calculation and interpretation of core logs and in-situ test results.</td><td>6</td></tr><tr><td colspan="3">3.2. Site Supervisor</td></tr><tr><td>3.2.1</td><td>Site Supervisor with experience in site supervising the drilling activities</td><td>4</td></tr><tr><td colspan="3">3.3. Drill Operator</td></tr><tr><td>3.3.1</td><td>Operator with experience in operating drilling rigs</td><td>6</td></tr><tr><td colspan="3">3.4 Technician/Mechanics</td></tr></table>	SN	Criteria	Weightage (%)	1. Adequacy and quality of the proposed methodology, and work plan in responding to the Terms of Reference			1.1	The Client will assess whether the proposed methodology is clear, responds to the ToR	15	TORs, work plan is realistic and implementable.	15	2. Relevant Experience of the Bidder			2.1	Cumulative relevant exploratory core drilling length.	15	2.2	Maximum relevant completed borehole depth.	10	3. KEY PERSONNEL			3.1. Geologist			3.1.1	Minimum Bachelors in Geology with minimum field experience of 5 years. Skilled in core logging and carrying out in-situ tests. Proficiency in calculation and interpretation of core logs and in-situ test results.	6	3.2. Site Supervisor			3.2.1	Site Supervisor with experience in site supervising the drilling activities	4	3.3. Drill Operator			3.3.1	Operator with experience in operating drilling rigs	6	3.4 Technician/Mechanics		
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	3.4.1	Technician/Mechanics experience in repair and maintenance of drill rigs	4
	4. EQUIPMENT		
	4.1	Drilling Rigs	15
	4.2	Hydrofracturing Test Equipment	10
		Total	100
<i>To enable evaluation of the technical factors, technical sub-factors consistent with the expectation and corresponding weights, as appropriate.</i>			
H. Notification of Evaluation of Technical Parts and Public Opening of Financial Parts			
ITB 32.5	The Letter of Bid – Financial Part and Priced Activity Schedule shall be initialed by 3 representatives of the Employer conducting Bid opening.		
I. Evaluation of Financial Part of Bids			
ITB 35.1 (f)	Not applicable		
ITB 36.1	The currency that shall be used for Bid evaluation and comparison purposes to convert at the selling exchange rate all Bid prices expressed in various currencies into a single currency is: BTN The source of exchange rate shall be: Royal Monetary Authority The date for the exchange rate shall be: 12 October 2026		
J. Evaluation of Combined Technical and Financial Parts and Most Advantageous Bid			
ITB 38.1	The weight to be given for cost is: 60 (Sixty) %		
ITB 40	Standstill period: Applicable		
ITB 43.3	The Contract Award Notice shall be published on the Employer's website: Yes		
K. Award of Contract			
ITB 47	The Adjudicator proposed by the Employer is: any person certified and accredited by Bhutan Alternative Dispute Resolution Centre (ADRC) subject to acceptance by both the parties. The hourly fee for this proposed Adjudicator shall be at the time of contract finalization.		

	The biographical data of the proposed Adjudicator is as follows: to be agreed at the time of contract finalization.
ITB 48.1	The procedures for making a Procurement-related Complaint are detailed in the “Procurement Regulations for IPF Borrowers (Annex III).” If a Bidder wishes to make a Procurement-related Complaint, the Bidder should submit its complaint following these procedures, in writing (by the quickest means available, that is either by email or fax), to: For the attention: Ugyen Namgyal Title/position: Director, Finance and Investment Department Employer: Druk Green Power Corporation Ltd. Email address: ugyen.namgyal@drukgreen.bt A copy of the complaint can be sent for the Bank’s information and monitoring to: pprocurementcomplaints@worldbank.org In summary, a Procurement-related Complaint may challenge any of the following: 1. the terms of the Bidding Documents; 2. the Employer’s decision to exclude a Bidder from the procurement process prior to the award of contract; and 3. the Employer’s decision to award the contract.

Section III - Evaluation and Qualification Criteria

This section contains the criteria that the Employer shall use to evaluate Bids and qualify Bidders. No other factor methods or criteria shall be used other than specified in this bidding document. The Bidder shall provide all the information requested in the forms included in Section IV, Bidding Forms.

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1. Qualification

If the Employer has not undertaken prequalification of potential Bidders, all Bidders shall include the following information and documents with their Bids:

- (a) copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the Bid to commit the Bidder;
- (b) total monetary value of Services performed for each of the last five years;
- (c) experience in Service of a similar nature and size for each of the last five years, and details of Services under way or contractually committed); and names and address of clients who may be contacted for further information on those contracts;
- (d) list of major items of equipment proposed to carry out the Contract;
- (e) qualifications and experience of key site management and technical personnel proposed for the Contract;
- (f) reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past five years;
- (g) evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources);
- (h) authority to the Employer to seek references from the Bidder's bankers;
- (i) information regarding any litigation, current or during the last five years, in which the Bidder is involved, the parties concerned, and disputed amount;
- (j) proposals for subcontracting components of the Services amounting to more than 10 percent of the Contract Price;
- (k) , Environmental and Social (ES) past performance declaration (see below at the end of this section); and
- (l) Bidders shall include with their bids the Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment Performance Declaration, using the form in Section IV.
- (m) Compliance with the minimum qualification requirements specified in Section III, Paragraph 1 shall be assessed on a pass/fail basis. A Bidder that fails to meet any applicable minimum qualification requirement shall be determined as not qualified. Rated Criteria shall be applied only to substantially responsive Bids submitted by qualified Bidders and shall assess the relative quality, suitability or capacity offered by each Bidder against the stated criteria.

Qualification Requirements

Joint Ventures	The information needed for Bids submitted by joint ventures is as follows: bidder information form to be filled in for each JV member
Annual Volume	The minimum required annual volume of Services for the successful Bidder in any of the last five years (2021-2025) shall be: Lot -I: USD 251,000 (United States Dollar Two Hundred Fifty-One Thousand) only equivalent to BTN 23.85 million Lot- II: USD 217,000 (United States Dollar Two Hundred Seventeen Thousand) only or equivalent to BTN 20.66 million Lot- III: USD 215,000 (United States Dollar Two Hundred Fifteen Thousand) or equivalent to BTN 20.41 million Lot- IV: USD 238,000 (United States Dollar Two Hundred Thirty Eight Thousand) or equivalent to BTN 22.63 million <i>The bidder should meet cumulative annual volume for the award of the proposed combination of lots.</i>
Experience	The experience required to be demonstrated by the Bidder should include as a minimum that he has executed during the last 5 years the following: Experience in having successfully completed at least 1 (one) similar work (Exploratory Core Drilling and Associated Tests) with a value of at least as under in the last 5 years: Lot -I: USD 201,000 (United States Dollar Two Hundred One Thousand) only equivalent to BTN 19.08 million Lot- II: USD 174,000 (United States Dollar One Hundred Seventy-Four Thousand) only equivalent to BTN 16.53 million Lot- III: USD 172,000 (United States Dollar One Hundred Seventy-Two Thousand) only equivalent to BTN 16.33 million Lot- IV: USD 190,000 (United States Dollar One Hundred Ninety Thousand) only equivalent to BTN 18.10 million ✓ The bidder must submit the copy of work order & completion certificate. ✓ The same contract experience may be considered for meeting the qualification requirements of multiple Lots, provided that the contract amount satisfies the minimum value requirement specified for each respective Lot.

Essential Equipment

The essential equipment to be made available for the Contract by the successful Bidder shall be:

(i) Lot- I: Exploratory Core Drilling and Associated Tests at Headworks and HRT for Chamkharchhu II HPP shall be:

SN	Items	Qty (Nos.)
1	Drill rig and accessories	3
2	Triple tube core barrels with split inner tubes & accessories	4
3	Pneumatic packer	4
4	Pressure Pump	4
5	Hydrofracturing Test Equipment	1 Set

Note: Separate drilling equipment and necessary spare parts are required since drilling at three sites is to be carried out simultaneously.

(ii) Lot- II: Exploratory Core Drilling and Associated Test at HRT and Powerhouse for Chamkharchhu II HPP shall be:

SN	Items	Qty (Nos.)
1	Drill rig and accessories	2
2	Triple tube core barrels with split inner tubes & accessories	3
3	Pneumatic packer	3
4	Pressure Pump	3
5	Hydrofracturing Test Equipment	1 Set

Note: Separate drilling equipment and necessary spare parts are required since drilling at two sites is to be carried out simultaneously.

(iii) Lot- III: Exploratory Core Drilling and Associated Tests at Headworks and HRT for Chamkharchhu IV HPP shall be:

SN	Items	Qty (Nos.)
1	Drill rig and accessories	2
2	Triple tube core barrels with split inner tubes & accessories	3
3	Pneumatic packer	3
4	Pressure Pump	3
5	Hydrofracturing Test Equipment	1 Set

Note: Separate drilling equipment and necessary spare parts are required since drilling at two sites is to be carried out simultaneously.

	Site Supervisor	1	Minimum experience of 5 years in similar work
	Note: Three drilling rigs are to be deployed at site and therefore a dedicated drilling rig operator is required at each location. However, a single technician/mechanic and geologist shall suffice for all sites.		
	ii. Lot- II: Exploratory Core Drilling and Associated Tests at HRT and Powerhouse for Chamkharchhu II HPP shall be:		
	Personnel	Nos	Qualification
	Geologist	1	-Minimum of Bachelors in Geology with minimum field experience of 5 years -Skilled in core logging and carrying out in-situ tests -Proficiency in the calculation and interpretation of core logs and in-situ test results
	Drilling rig operator	2	Minimum experience of 5 years in similar work
	Technician/ Mechanic	1	Minimum experience of 5 years in similar work
	Site Supervisor	1	Minimum experience of 5 years in similar work
	Note: Two drilling rigs are to be deployed at site and therefore a dedicated drilling rig operator is required at each location. However, a single technicians/mechanic and geologist shall suffice for all sites.		
	iii. Lot- III: Exploratory Core Drilling and Associated Tests at Headworks and HRT for Chamkharchhu IV HPP shall be:		
	Personnel	Nos	Qualification
	Geologist	1	-Minimum of Bachelors in Geology with minimum field experience of 5 years -Skilled in core logging and carrying out in-situ tests -Proficiency in the calculation and interpretation of core logs and in-situ test results
	Drilling rig operator	2	Minimum experience of 5 years in similar work
	Technician/ Mechanics	1	Minimum experience of 5 years in similar work

Site Supervisor	1	Minimum experience of 5 years in similar work
Note: Two drilling rigs are to be deployed at site and therefore a dedicated drilling rig operator is required at each location. However, a single Geologist, Technician and supervisor shall suffice for all sites.		
iv. Lot- IV: Exploratory Core Drilling and Associated Tests at HRT and Powerhouse for Chamkharchhu IV HPP shall be:		
Personnel	Nos	Qualification
Geologist	1	-Minimum of Bachelors in Geology with minimum field experience of 5 years -Skilled in core logging and carrying out in-situ tests -Proficiency in the calculation and interpretation of core logs and in-situ test results
Drilling rig operator	3	Minimum experience of 5 years in similar work
Technician/ Mechanics	1	Minimum experience of 5 years in similar work
Site Supervisor	1	Minimum experience of 5 years in similar work
Note: Three drilling rigs are to be deployed at site and therefore a dedicated drilling rig operator is required at each location. However, a single geologist, technician and supervisor shall suffice for all sites.		
<u>Note</u>		
*The Bidder shall submit the qualification certificate of Geologist and CVs/proof of experience of similar works for the above personnel.		
* If a bidder submits Bids for all Lots, the manpower proposed for each Lot should be different.		
Only personnel meeting the applicable minimum qualification and experience requirements shall be considered for scoring. The assessment shall be based on the qualifications and relevant experience demonstrated through the submitted academic or professional certificates, CVs and other supporting evidence. Experience shall be directly relevant to exploratory core drilling and associated tests.”		

Liquid Assets	The minimum amount of liquid assets and/or credit facilities net of other contractual commitments of the successful Bidder shall be: i. Lot -I: USD 72,000 (United States Dollar Seventy-Two Thousand) only equivalent to BTN 6.81 million ii. Lot- II: USD 72,000 (United States Dollar Seventy-Two Thousand) only equivalent BTN 6.88 million iii. Lot- III: USD 61,000 (United States Dollar Sixty-One Thousand) only equivalent BTN 5.83 million iv. Lot- IV: USD 71,000 (United States Dollar Seventy-One Thousand) only equivalent to BTN 6.78 million
Subcontractors	Subcontractors' experience <i>“shall not”</i> be taken into account.

The figures for each of the members of a joint venture shall be added together to determine the Bidder's compliance with the minimum qualifying criteria of (a), (b) and (c); however, for a joint venture to qualify the member in charge must meet at least 40% of those minimum criteria for an individual Bidder and other members at least 25% of the criteria. Failure to comply with this requirement will result in rejection of the joint venture's Bid.

Subcontractors' experience and resources ***will not be taken*** into account in determining the Bidder's compliance with the qualifying criteria, unless otherwise stated in the Qualification Requirements above.

Declaration: Environmental and Social (ES) past performance

The Bidder (if joint venture, each member of a joint venture) shall declare, using the form in Section IV, any contract that has been suspended or terminated and/or performance security called by an employer, in the past five years, for reasons of breach of environmental or social (including Sexual Exploitation and Abuse) contractual obligations. The Employer may use this information to seek further information or clarifications in carrying out its due diligence.

2. Evaluation of Technical Proposal

- 2.1 Assessment of adequacy of Technical Proposal with Requirements in accordance with ITB 31.1: **Qualification in Section III and performance specifications in Section VII**
- 2.2 The Rated Criteria (including technical and non-price factors, and sub factors if any) to be evaluated and the scores to be given to each factor and sub factor are specified in the BDS ITB 31.2.
- 2.3 The Rated Criteria, including all factors, sub-factors, maximum weights and scoring descriptions, shall be as specified in BDS ITB 31.2 and this Section. The scoring methodology provided in this Section shall be applied consistently to each corresponding factor and sub-factor. No factor, sub-factor or evaluation methodology other than those specified in the BDS and this Section shall be used in evaluating the Bids.

Technical Proposal Scoring Methodology

The Rated Criteria shall be used to differentiate among Bidders that have satisfied the mandatory, eligibility, responsiveness and minimum qualification requirements of the Bidding Document.

Each criterion shall be scored from **0 to 3**. A score of **0** represent inadequate response, **1** represents an adequate response, **2** represents a good response, and **3** represents a very good/strong response.

The Rated Criteria shall not constitute additional minimum qualification requirements.

Mandatory and minimum qualification requirements shall be assessed separately in accordance with the applicable provisions of the Bidding Document.

SN	Criteria	Weightage (%)	Score 0	Score 1	Score 2	Score 3
1	METHODOLOGY AND WORK PLAN	30				
1.1	Adequacy and quality of the proposed methodology and understanding of the Works. The proposed methodology shall demonstrate a practical approach for carrying out the exploratory core drilling and associated tests in accordance with the Employer's Requirements, including, as applicable, drilling operations, core recovery and handling, geological/core logging, in-situ testing, laboratory testing/sample handling and quality control.	15	NA	Methodology addresses the main requirements of the Works but one or more important aspects are insufficiently explained or contain significant gaps.	Methodology addresses all or substantially all key aspects with a clear, logical and generally practical approach, with only minor gaps or improvements required.	Methodology addresses all applicable key aspects clearly and in an integrated manner, is technically sound and practical, and demonstrates a strong understanding of the Works and relevant technical/operational challenges.
1.2	Adequacy and realism of the proposed Work Plan, including mobilization and deployment of resources. The Work Plan shall demonstrate a realistic sequence of activities, mobilization, deployment of drilling rigs, equipment and personnel, movement between drilling locations, consideration of site/access conditions and completion within the stipulated contract period.	15	NA	Work Plan and mobilization approach are generally achievable but contain notable gaps in sequencing, site/access considerations, resource deployment or timelines.	Work Plan is clear and generally realistic and demonstrates a practical mobilization and resource deployment approach, with only minor gaps.	Work Plan is clear, realistic and well sequenced and demonstrates a well-coordinated, site-appropriate mobilization and resource deployment approach providing strong confidence in timely completion.
2	RELEVANT EXPERIENCE OF THE BIDDER	25				

SN	Criteria	Weightage (%)	Score 0	Score 1	Score 2	Score 3
2.1	Cumulative relevant exploratory core drilling length. The cumulative length of relevant exploratory core drilling successfully completed by the Bidder during the last five (5) years shall be assessed against the total exploratory core drilling length required under the respective Lot.	15	<50% of the total length	≥50% but <100% of the total drilling length required under the respective Lot.	≥100% but <150% of the total drilling length required under the respective Lot.	≥150% of the total drilling length required under the respective Lot.
2.2	Maximum relevant completed borehole depth. The maximum depth of an individual relevant exploratory core borehole successfully completed by the Bidder during the last five (5) years shall be assessed against the maximum borehole depth required under the respective Lot.	10	<50% of the total length	≥50% but <75% of the maximum borehole depth required under the respective Lot.	≥75% but <100% of the maximum borehole depth required under the respective Lot.	≥100% of the maximum borehole depth required under the respective Lot.
3	KEY PERSONNEL	20				
3.1	Geologist. Additional directly relevant experience and demonstrated capability in exploratory drilling investigations, geological/core logging, interpretation of core logs and in-situ testing beyond the minimum qualification requirements.	6	NA	Relevant experience beyond the minimum requirements is demonstrated in at least two relevant areas.	Relevant experience is demonstrated in at least three relevant areas, including experience in comparable drilling investigations.	Relevant experience is demonstrated in all applicable areas, including strong experience in comparable exploratory core drilling investigations.
3.2	Site Supervisor. Additional directly relevant experience in supervising and coordinating exploratory drilling operations beyond the minimum qualification requirements.	4	NA	Relevant experience is demonstrated in at least two of the following: supervision of drilling, coordination of drilling crews/equipment, monitoring drilling progress/quality, and comparable drilling site experience.	Relevant experience is demonstrated in at least three of the above areas.	Relevant experience is demonstrated in all four areas, including comparable exploratory drilling operations.
3.3	Drill Rig Operator(s). Additional relevant experience and practical capability in exploratory core drilling, operation of comparable drilling rigs, routine equipment maintenance and first-level troubleshooting.	6	NA	Relevant experience in core drilling and operation of drilling equipment is demonstrated, with basic evidence of routine maintenance or troubleshooting.	Relevant experience operating comparable drilling rigs, together with documented experience in routine maintenance and first-level troubleshooting, is demonstrated.	Extensive relevant experience operating comparable drilling rigs, together with documented practical experience in drilling, routine maintenance and first-level troubleshooting, is demonstrated.

SN	Criteria	Weightage (%)	Score 0	Score 1	Score 2	Score 3
3.4	Technician/Mechanic. Additional directly relevant experience in maintenance, troubleshooting and repair of drilling rigs and associated equipment beyond the minimum qualification requirements.	4	NA	Relevant experience in maintenance and repair of drilling equipment is demonstrated.	Relevant experience in maintenance, troubleshooting and repair of comparable drilling rigs is demonstrated.	Extensive relevant experience in maintenance, troubleshooting and repair of comparable drilling rigs is demonstrated, including experience responding to equipment breakdowns and restoring equipment to operation.
4	EQUIPMENT AND CONTINUOUS OPERATIONS	25				
4.1	Suitability of proposed drilling rigs and supporting equipment. The proposed equipment shall be assessed for suitability for the required drilling depths, expected site/geological conditions, drilling and associated testing requirements and proposed work programme.	15	NA	Proposed equipment is generally suitable for the main drilling requirements but has significant gaps or insufficient evidence regarding one or more aspects.	Proposed equipment is suitable for all or substantially all requirements, with appropriate supporting equipment and only minor gaps.	Proposed equipment clearly demonstrates suitability for all applicable drilling and associated testing requirements, with equipment capability, supporting equipment and deployment well matched to the Works.
4.2	Arrangements for continuous operations. The Bidder shall demonstrate practical arrangements for routine/preventive maintenance, availability of critical spare parts, equipment breakdown and repair, technician/mechanic support and minimization of avoidable drilling downtime.	10	NA	Addresses the main maintenance and breakdown requirements, but arrangements are basic or contain some gaps.	Addresses all or substantially all requirements with practical arrangements providing reasonable assurance of continuity of operations.	Addresses all requirements with specific and practical arrangements providing strong assurance of continuous operations and prompt response to maintenance and equipment breakdowns.
	TOTAL	100				

The score for each sub- factor (i) within a factor (j) will be combined with the scores of sub- factors in *the* same factor as a weighted sum to form the Factor Technical Score using the following formula:

$$S_j \equiv \sum_{i=1}^k t_{ji} * w_{ji}$$

where:

t_{ji} = the technical score for sub- factor “i” in factor “j”,

w_{ji} = the weight of sub- factor “i” in factor “j”,

k = the number of scored sub-factors in factor “j”, and

$$\sum_{i=1}^k w_{ji} = 1$$

The Factor *Technical* Scores will be combined in a weighted sum to form the total Technical Proposal Score using the following formula:

$$T \equiv \sum_{j=1}^n S_j * W_j$$

where:

S_j = the Factor Technical Score of factor “j”,

W_j = the weight of factor “j” as specified **in the BDS**,

n = the number of Factors, and

$$\sum_{j=1}^n W_j = 1$$

Alternative Technical Solutions for specified parts of the Works -Not applicable

If permitted under ITB 14, will be evaluated as follows:

.....

3. Financial Evaluation

Criteria for Financial Evaluation

The criteria listed in ITB 35.1 (a) – (e) shall apply.

4. Combined Evaluation

The Employer will evaluate and compare the Bids that have been determined to be substantially responsive.

An Evaluated Bid Score (B) will be calculated for each responsive Bid using the following formula, which permits a comprehensive assessment of the evaluated cost and the technical merits of each Bid:

$$B \equiv \frac{C_{low}}{C} * X * 100 + \frac{T}{T_{high}} * (1 - X) * 100$$

Where:

C = Evaluated Bid Cost

C_{low} = the lowest of all Evaluated Bid Costs among responsive Bids

T = the total Technical Score awarded to the Bid

T_{high} = the Technical Score achieved by the Bid that was scored best among all responsive Bids

X = weight for Cost as specified **in the BDS**

The Bid with the best evaluated Bid Score (B) among responsive Bids shall be the Most Advantageous Bid provided the Bidder is qualified to perform the Contract.

5. Multiple Contracts

Award Criteria - In accordance with ITB 1.1, Bids are invited for multiple Lots. The contract for each Lot shall be awarded to the Bidder whose Bid is determined to be the Most Advantageous Bid for that particular Lot.

Each Lot shall initially be evaluated separately. A Bidder may be awarded one, more than one, or all Lots for which its Bid is determined to be the Most Advantageous Bid, provided that the Bidder:

- a. meets the qualification requirements for each Lot separately;
- b. meets the cumulative financial-capacity requirements for the proposed combination of Lots;
- c. demonstrates the availability of separate key personnel, drilling rigs, hydrofracturing test equipment and other resources required for the concurrent execution of the Lots; and
- d. demonstrates that its implementation schedule, organizational arrangements and management capacity are adequate for the concurrent execution of all Lots proposed for award.

Where a Bidder is ranked first in more than one Lot but does not meet the cumulative qualification requirements for all such Lots, the Employer shall determine the combination of Lots that provides the highest aggregate Evaluated Bid Score and for which the Bidder meets the applicable cumulative qualification requirements. The remaining Lot or Lots shall be considered for award to the next-ranked responsive and qualified Bidder or Bidders in accordance with the same predetermined methodology.

Cross-discounts for the award of multiple Lots shall not be considered.”

Section IV- Bidding Forms

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Letter of Bid -Technical Part

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

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

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

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

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

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

We, the undersigned, hereby submit our Bid, in two parts, namely:

- (a) the Technical Part, and
- (b) the Financial Part

In submitting our Bid, we make the following declarations:

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

- (a) **No reservations:** We have examined and have no reservations to the bidding document, including Addenda issued in accordance with ITB 9;
- (b) **Eligibility:** We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
- (c) **Bid-Securing Declaration:** We have not been suspended nor declared ineligible by the Employer based on execution of a Bid-Securing Declaration or Proposal-Securing Declaration in the Employer's country in accordance with ITB 4.7;
- (d) **Exploitation and Abuse (SEA) and/or Sexual Harassment (SH):** *[select the appropriate option from (i) to (iii) below and delete the others].*

We *[where JV, insert: "including any of our JV members"]*, and any of our subcontractors:

- (i) *[have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.]*
- (ii) *[are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.]*

- (iii) [had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. An arbitral award on the disqualification case has been made in our favor.]
- (e) **Conformity:** We offer to provide the Non-Consulting Services in conformity with the bidding document of the following: *[insert a brief description of the Non-Consulting Services]*;
- (f) **Bid Validity Period:** Our Bid shall be valid until *[insert day, month and year in accordance with ITB 19.1]*, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (g) **Performance Security:** If our Bid is accepted, we commit to obtain a Performance Security in accordance with the bidding document;
- (h) **One Bid Per Bidder:** We are not submitting any other Bid(s) as an individual Bidder, and we are not participating in any other Bid(s) as a Joint Venture member or as a subcontractor, and meet the requirements of ITB 4.3, other than alternative Bids submitted in accordance with ITB 14;
- (i) **Suspension and Debarment:** We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the World Bank Group or a debarment imposed by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Employer's Country laws or official regulations or pursuant to a decision of the United Nations Security Council;
- (j) **State-owned enterprise or institution:** *[select the appropriate option and delete the other] [We are not a state-owned enterprise or institution] / [We are a state-owned enterprise or institution but meet the requirements of ITB 4.6];*
- (k) **Binding Contract:** We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- (l) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Bid, the Most Advantageous Bid or any other Bid that you may receive; and
- (m) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption.

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

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

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

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

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

*: In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder.

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

Appendix to Technical Part

The Bidder shall complete as appropriate and attach to the Letter of Bid-Technical Part, relevant documents, including the following, to demonstrate its qualifications and technical capacity to mobilize relevant resources for the contract, consistent with its proposal regarding work methods, scheduling etc., and fully in accordance with the requirements stipulated in Section VII, Employer's Requirements:

1. Bidder's qualifications;
2. Description of the Services, including demonstrating that the services will meet or exceed any specified performance requirements;
3. Method Statement;
4. Code of Conduct; and
5. Work Plan.

Bidder Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]

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

RFB No.: *[insert number of Bidding process]*

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

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1. Bidder's Name <i>[insert Bidder's legal name]</i>
2. In case of JV, legal name of each member: <i>[insert legal name of each member in JV]</i>
3. Bidder's actual or intended country of registration: <i>[insert actual or intended country of registration]</i>
4. Bidder's year of registration: <i>[insert Bidder's year of registration]</i>
5. Bidder's Address in country of registration: <i>[insert Bidder's legal address in country of registration]</i>
6. Bidder's Authorized Representative Information Name: <i>[insert Authorized Representative's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.4. ☐ In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1. ☐ In case of state-owned enterprise or institution, in accordance with ITB 4.6 documents establishing: • Legal and financial autonomy • Operation under commercial law • Establishing that the Bidder is not under the supervision of the agency of the Employer
8. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. <i>[The successful Bidder shall provide additional information on beneficial ownership, using the Beneficial Ownership Disclosure Form.]</i>

Bidder's JV Members Information Form

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

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

RFB No.: *[insert number of Bidding process]*

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

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1. Bidder's Name: <i>[insert Bidder's legal name]</i>
2. Bidder's JV Member's name: <i>[insert JV's Member legal name]</i>
3. Bidder's JV Member's country of registration: <i>[insert JV's Member country of registration]</i>
4. Bidder's JV Member's year of registration: <i>[insert JV's Member year of registration]</i>
5. Bidder's JV Member's legal address in country of registration: <i>[insert JV's Member legal address in country of registration]</i>
6. Bidder's JV Member's authorized representative information Name: <i>[insert name of JV's Member authorized representative]</i> Address: <i>[insert address of JV's Member authorized representative]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers of JV's Member authorized representative]</i> Email Address: <i>[insert email address of JV's Member authorized representative]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.4. ☐ In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of the Employer, in accordance with ITB 4.6.
8. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. <i>[The successful Bidder shall provide additional information on beneficial ownership for each JV member using the Beneficial Ownership Disclosure Form.]</i>

Qualification Information

- 1. Individual Bidders or Individual Members of Joint Ventures**
- 1.1 Constitution or legal status of Bidder: *[attach copy]*
- Place of registration: *[insert]*
- Principal place of business: *[insert]*
- Power of attorney of signatory of Bid: *[attach]*
- 1.2 Total annual volume of Services performed in five years, in the internationally traded currency specified **in the BDS**: *[insert]*
- 1.3 Services performed as prime Service Provider on the provision of Services of a similar nature and volume over the last five years. The values should be indicated in the same currency used for Item 1.2 above. Also list details of Services under way or committed, including expected completion date.

Project name and country	Name of employer and contact person	Type of Services provided and year of completion	Value of contract
(a)			
(b)			

- 1.4 Major items of Service Provider's Equipment proposed for carrying out the Services. List all information requested below.

Item of equipment	Description, make, and age (years)	Condition (new, good, poor) and number available	Owned, leased (from whom?), or to be purchased (from whom?)
(a)			
(b)			

- 1.5 Qualifications and experience of key personnel proposed for administration and execution of the Contract. Attach biographical data. Refer to GCC Clause 4.1.

Position	Name	Years of experience (general)	Years of experience in proposed position
(a)			

(b)

- 1.6 Proposed subcontracts and firms involved. Refer to GCC Clause 3.5.

Sections of the Services	Value of subcontract	Subcontractor (name and address)	Experience in providing similar Services
(a)			
(b)			

- 1.7 Financial reports for the last five years: balance sheets, profit and loss statements, auditors' reports, etc. List below and attach copies.
- 1.8 Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List below and attach copies of support documents. We certify/confirm that we comply with eligibility requirements as per ITB 4.
- 1.9 Name, address, and telephone, telex, and facsimile numbers of banks that may provide references if contacted by the Employer.
- 1.10 Information regarding any litigation, current or within the last five years, in which the Bidder is or has been involved.

Other party(ies)	Cause of dispute	Details of litigation award	Amount involved
(a)			
(b)			

- 1.11 Statement of compliance with the requirements of ITB 4.2.
- 1.12 Environmental and Social (ES) performance declaration, if required, and Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment Performance Declaration, using the forms included in this Section IV.
- 1.13 Proposed Program (service work method and schedule). Descriptions, drawings, and charts, as necessary, to comply with the requirements of the bidding document.

2. Joint Ventures

- 2.1 The information listed in 1.1 - 1.12 above shall be provided for each member of the joint venture (and each subcontractor for the SEA/SH declaration).
- 2.2 The information in 1.13 above shall be provided for the joint venture.

- 2.3 Attach the power of attorney of the signatory(ies) of the Bid authorizing signature of the Bid on behalf of the joint venture.
 - 2.4 Attach the Agreement among all members of the joint venture (and which is legally binding on all members), which shows that
 - (a) all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;
 - (b) one of the members will be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of any and all members of the joint venture; and
 - (c) the execution of the entire Contract, including payment, shall be done exclusively with the member in charge.
- 3. Additional Requirements**
- 3.1 Bidders should provide any additional information required **in the BDS**.

Environmental and Social Performance Declaration

[Note to the Employer: Include this form if applicable in accordance with Section III]

[The following table shall be filled in for the Bidder and each member of a Joint Venture]

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

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

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

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

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

Environmental and Social Performance Declaration			
☐ No suspension or termination of contract: An employer has not suspended or terminated a contract and/or called the performance security for a contract for reasons related to Environmental or Social (ES) performance, in the past five years.			
☐ Declaration of suspension or termination of contract: The following contract(s) has/have been suspended or terminated and/or Performance Security called by an employer(s) for reasons related to Environmental or Social (ES) performance, in the past five years. Details are described below:			
Year	Suspended or terminated portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for suspension or termination: <i>[indicate main reason(s) e.g. gender-based violence; sexual exploitation or sexual abuse breaches]</i>	<i>[insert amount]</i>
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for suspension or termination: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
...	...	<i>[list all applicable contracts]</i>	...
Performance Security called by an employer(s) for reasons related to ES performance			

Year	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
[insert year]	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for calling of performance security: <i>[indicate main reason(s) e.g. gender-based violence; sexual exploitation, or sexual abuse breaches]</i>	[insert amount]

Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment Performance Declaration

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

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

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

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

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

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

SEA and/or SH Declaration
We: ☐ (a) have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations ☐ (b) are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations ☐ (c) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. An arbitral award on the disqualification case has been made in our favor.
<i>[If (c) above is applicable, attach evidence of an arbitral award reversing the findings on the issues underlying the disqualification.]</i>

Services

The Bidder shall submit documentary evidence to demonstrate that the Services to be provided will meet or exceed the technical specifications and standards specified in Section VII, Employer's Requirements, including any specified performance requirements.

Method Statement

The Bidder shall submit its method statement for the Services to be provided.

*[**Note to the Employer:** Include the following if applicable in accordance with the Bid Data Sheet 12.1 (h); modify as appropriate]*

The Bidder shall submit comprehensive and concise Environmental and Social Management Strategies and Implementation Plans (ES-MSIP) as required by ITB 12.1 (h) of the Bid Data Sheet. These strategies and plans shall describe in detail the actions, materials, equipment, management processes etc. that will be implemented by the Service Provider, and its Subcontractors.

In developing these strategies and plans, the Bidder shall have regard to the ES provisions of the contract including those as may be more fully described in the Employer's Requirements in Section VII.]

*[In addition to submitting the **required** ES Management Strategies and Implementation Plans, the Bidder shall provide its proposal to demonstrate how additional sustainable procurement requirements, if any, specified in Section VII- Employer's Requirements would be addressed. The Bidder shall also provide its proposal, if any, for exceeding the sustainable procurement requirements]*

*[**Note to the Bidder:** If required, also include proposed method statement to manage cyber security risks.]*

Code of Conduct for Service Provider's Personnel Form (ES)

Note to the Employer:

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

Delete this Box prior to issuance of the bidding documents.

Note to the Bidder:

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

The Bidder shall initial and submit the Code of Conduct form as part of its bid.

CODE OF CONDUCT FOR SERVICE PROVIDER'S PERSONNEL

We are the Service Provider, [enter name of Service Provider]. We have signed a contract with [enter name of Employer] for [enter description of the Services]. The Services will be carried out at [enter the locations in the Employer's country where the Services are required, as applicable]. Our contract requires us to implement measures to address *environmental and social risks* [**Note to Employer:** *depending on the nature of the contract and assessed risks, this may be replaced with social risks*], related to the Services.

This Code of Conduct is part of our measures to deal with environmental and social risks [**Note to Employer:** *depending on the nature of the contract and assessed risks, this may be replaced with social risks*] related to the Services.

All personnel that we utilize in the execution of the Services, including the staff, labor and other employees of us and each Subcontractor, and any other personnel assisting us in the execution of the Services, are referred to as Service Provider's Personnel.

This Code of Conduct identifies the behavior that we require from the Service Provider's Personnel employed for the execution of the Services at the locations in the Employer's country where the Services are provided.

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

REQUIRED CONDUCT

Service Provider's Personnel employed for the execution of the Services at the locations in the Employer's country where the Services are provided shall:

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

RAISING CONCERNS

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

1. Contact [*enter name of the individual, with relevant experience, designated by the Service provider to handle these matters*] in writing at this address [] or by telephone at [] or in person at []; or
2. Call [] to reach the Service Provider's hotline (*if any*) and leave a message.

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

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

CONSEQUENCES OF VIOLATING THE CODE OF CONDUCT

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

FOR SERVICE PROVIDER'S PERSONNEL:

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

Name of Service Provider's Personnel: [insert name]

Signature:

Date: (day month year): _____

Countersignature of authorized representative of the Service Provider:

Signature: _____

Date: (day month year): _____

ATTACHMENT 1: Behaviors constituting SEA and behaviors constituting SH

ATTACHMENT 1 TO THE CODE OF CONDUCT FORM**BEHAVIORS CONSTITUTING SEXUAL EXPLOITATION AND ABUSE (SEA) AND
BEHAVIORS CONSTITUTING SEXUAL HARASSMENT (SH)**

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

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

- A Service Provider's Personnel tells a member of the community that he/she can get them jobs related to the work site (e.g. cooking and cleaning) in exchange for sex.
- A Service Provider's Personnel that is connecting electricity input to households says that he can connect women headed households to the grid in exchange for sex.
- A Service Provider's Personnel rapes, or otherwise sexually assaults a member of the community.
- A Service Provider's Personnel denies a person access to the locations where the Services are executed unless he/she performs a sexual favor.
- A Service Provider's Personnel tells a person applying for employment under the Contract that he/she will only hire him/her if he/she has sex with him/her.

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

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

Work Plan

Others - Time Schedule (Not Applicable)
(to be used by Bidder when alternative Time for Completion is invited in ITB 14.2)

Form of Bid Security **(Bank Guarantee)**

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

[Guarantor letterhead or SWIFT identifier code]

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

RFB No.: *[Employer to insert reference number for the Request for Bids]*

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

Date: *[Insert date of issue]*

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

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

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

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

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

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

This guarantee will expire: (a) if the Applicant is the successful Bidder, upon our receipt of copies of the Contract agreement signed by the Applicant and the performance security issued to the Beneficiary in relation to such Contract agreement; or (b) if the Applicant is not the successful

Bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Bidding process; or (ii) twenty-eight days after the expiry date of the Bid validity.

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

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

[Signature(s)]

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

Form of Bid Security (Bid Bond)- Not Applicable

[The Surety shall fill in this Bid Bond Form in accordance with the instructions indicated.]

BOND NO. _____

BY THIS BOND *[name of Bidder]* as Principal (hereinafter called “the Principal”), and *[name, legal title, and address of surety]*, **authorized to transact business in** *[name of country of Employer]*, as Surety (hereinafter called “the Surety”), are held and firmly bound unto *[name of Employer]* as Obligee (hereinafter called “the Employer”) in the sum of *[amount of Bond]*¹ *[amount in words]*, for the payment of which sum, well and truly to be made, we, the said Principal and Surety, bind ourselves, our successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has submitted or will submit a written Bid to the Employer dated the ____ day of _____, 20__, for the supply of *[name of Contract]* (hereinafter called the “Bid”).

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

- (a) withdraws its Bid prior to the Bid validity expiry date set forth in the Principal’s Letter of Bid, or any extended date provided by the Principal; or
- (b) having been notified of the acceptance of its Bid by the Employer prior to the expiry date of the Bid validity or any extension thereto provided by the Principal; (i) failed to execute the Contract agreement; or (ii) has failed to furnish the Performance Security, in accordance with the Instructions to Bidders (“ITB”) of the Employer’s bidding document.

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

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

IN TESTIMONY WHEREOF, the Principal and the Surety have caused these presents to be executed in their respective names this ____ day of _____ 20__.

Principal: _____ Surety: _____
Corporate Seal (where appropriate)

(Signature)
(Printed name and title)

(Signature)
(Printed name and title)

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

Form of Bid-Securing Declaration – Not Applicable

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

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

RFB No.: *[number of Bidding process]*

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

To: *[complete name of Employer]*

We, the undersigned, declare that:

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

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

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

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

Name of the Bidder* _____

Name of the person duly authorized to sign the Bid on behalf of the Bidder** _____

Title of the person signing the Bid _____

Signature of the person named above _____

Date signed _____ day of _____, _____

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

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

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

Letter of Bid - Financial Part

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

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

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

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

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

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

To: *[insert complete name of Employer]*

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

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

- (a) **Bid Validity:** Our Bid shall be valid until *[insert day, month and year in accordance with ITB 19.1]*, and it shall remain binding upon us and may be accepted at any time on or before this date;

Total Price: The total price of our Bid, excluding any discounts offered in item (c) below is:

Total price of each **Lot -I***[insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies]*

Total price of each **Lot -II**.....*[insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies]*

Total price of each **Lot -III**..... *[insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies]*

Total price of each **Lot -IV***[insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies]*

- (b) ; and (b) Total price of all lots (sum of all lots)[insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies];
- (c) **Discounts:** Cross discount shall not be applicable. The discounts offered and the methodology for their application are:
- (i) The discounts offered are: [Specify in detail each discount offered for separate Lots]
- (ii) The exact method of calculations to determine the net price after application of discounts is shown below: [Specify in detail the method that shall be used to apply the discounts];
- (d) **Commissions, gratuities and fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the Bidding process or execution of the Contract: [insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity].

Name of Recipient	Address	Reason	Amount

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

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

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

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

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

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

*: In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder.

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

Appendix to Financial Part

Schedule Forms

*[The Bidder shall fill in these Forms in accordance with the instructions indicated. The list of line items in column 1 of the Priced **Activity Schedules** shall coincide with the List of Non-Consulting Services specified in the Employer's Requirements.]*

Priced Activity Schedule

Lot I: Exploratory Core Drilling and Associated Tests at Head Works and HRT for Chamkharchhu II HPP

Currencies in accordance with ITB 16								
Date: _____								
RFB No: _____								
Alternative No: _____								
Page N° _____ of _____								
1	2		3		4	4	5	
SN	Description of Services		Unit		Delivery Date	Estimated Depth /Qty	Unit Price	Total Price
	DH ID	Borehole location						
1	Mobilization/Demobilization		LS		As per ToR			
2	Drilling Work							
i	DH-01	Barrage Axis (L/B) - Barrage Top	m			50		
ii	DH-02	Barrage Axis - (R/B) - RBL	m			50		
iii	DH-03	Barrage Axis (R/B) – Barrage Top	m			50		
iv	NH-01	Barrage Axis (R/B) – Barrage Top	m			50		
v	NH-02	Barrage Axis (R/B) – RBL: Inclined	m			50		
vi	NH-03	Barrage Axis (L/B) – RBL	m			50		
vii	NH-04	Barrage Axis (L/B) – Barrage Top	m			50		
viii	DH-04	Intake - R/B	m			45		
ix	DH-05	U/s Cofferdam - LB	m			50		
x	DH-06	Barrage Toe - R/B	m			40		
xi	DH-07	Barrage Toe - L/B	m			40		
xii	DH-08	Plunge Pool	m			70		
xiii	DH-09	DT Inlet - L/B	m			50		
xiv	DH-10	Desilting Chamber	Non-Coring	m	As per ToR	150		

			Coring		165		
xv	DH-11	HRT-1	m		75		
xvi	DH-12	HRT - 2	m		90		
Sub-Total							
3	In-situ Test						
i	Constant Head Test		Nos.	As per ToR	120		
ii	Standard Penetration Test		Nos.		120		
iii	Water Permeability Test		Nos.		300		
iv	Hydrofracture Test		Set		3		
Sub-Total							
4	Laboratory Rock Test						
i	Index rock properties, natural water content test, porosity, unit weight, specific gravity, water absorption, density		Nos.	As per ToR	52		
ii	Brazilian test		Nos.		52		
iii	Triaxial compressive test with MI value		Nos.		52		
iv	Sonic velocity test		Nos.		52		
v	Petrographic analysis		Nos.		52		
vi	Direct shear test		Nos.		52		
vii	Unconfined compression test (without strain measurement)		Nos.		52		
viii	Unconfined compression test (with strain measurement)		Nos.		52		
Sub-Total							
Total (1+2+3+4)							

Lot II: Exploratory Core Drilling and Associated Tests at HRT and Power House for Chamkharchhu II HPP

Currencies in accordance with ITB 16							
RFB No: _____							
Alternative No: _____							
Page N° _____ of _____							
1	2		3	4	5	6	5x6 =7
SN	Description of Services		Unit	Delivery Date	Estimated Depth /Qty	Unit Price	Total Price
	DH ID	Borehole location					
1	Mobilization/Demobilization		LS				
2	Drilling Work						
i	DH17	HRT - 3	m	As per ToR	80		
iii	DH18	Surge Shaft	m		130		
iv	DH19	Pressure Shaft	m		345		
v	DH20	Powerhouse Cavern	m		125		
		Coring			200		
vi	DH21	Tail Race Tunnel	m		40		
			Sub-Total				
3	In-Situ Test						
i	Water Permeability Test		Nos.	As per ToR	273		
ii	Hydrofracture Test		Set		3		
			Sub-Total				
4	Laboratory Test						
i	Index rock properties, natural water content test, porosity, unit weight, specific gravity, water absorption, density		Nos.		20		
ii	Brazilian test		Nos.		20		

iii	Triaxial compressive test with MI value	Nos.	As per ToR	20		
iv	Sonic velocity test	Nos.		20		
v	Petrographic analysis	Nos.		20		
vi	Direct shear test	Nos.		20		
vii	Unconfined compression test (without strain measurement)	Nos.		20		
viii	Unconfined compression test (with strain measurement)	Nos.		20		
Sub-Total						
5	Laboratory Soil Test					
i	Index Properties (Natural Water Content Test, Porosity, Unit Weight, Specific Gravity, Water Absorption, Density, Void Index)	Nos.	As per ToR	6		
ii	Gradation Analysis	Nos.		6		
iii	Hydrometer Test	Nos.		6		
iv	Atterberg Limits	Nos.		6		
v	Oedometric Test (Consolidation)	Nos.		6		
vi	Direct Shear Test (CD)	Nos.		6		
vii	Direct Shear Test (CU)	Nos.		6		
viii	Triaxial Test (CD)	Nos.		6		
ix	Triaxial Test (CU)	Nos.		6		
x	Cyclic Triaxial Test (UU)	Nos.		6		
Sub-Total						
Total						

Lot III: Exploratory Core Drilling and Associated Tests at Headworks and HRT for Chamkharchhu IV HPP

Currencies in accordance with ITB 16								
Date: _____								
RFB No: _____								
Alternative No: _____								
Page N° _____ of _____								
1	2			3	4	5	6	5x6 =7
SN	Description of Services			Unit	Delivery Date	Estimated Depth /Qty	Unit Price	Total Price
	DH ID	Borehole location						
1	Mobilization/Demobilization			LS				
2	Drilling Work							
i	DH-01	Dam Axis (L/B) - RBL		m	As per ToR	60		
ii	DH-02	Dam Axis - (L/B) – Dam Top		m		60		
iii	DH-03	Dam Axis (R/B) - RBL		m		60		
iv	DH-04	Dam Axis - (R/B) – Dam Top		m		60		
v	DH-05	Dam Toe - L/B		m		50		
vi	DH-06	Dam Toe - R/B		m		50		
vii	DH-07	Plunge Pool		m		50		
viii	DH-08	U/s Cofferdam - RB		m		40		
ix	DH-09	DT Outlet - R/B		m		60		
x	DH-10	Intake		m		30		
xi	DH-11	Desilting Chamber	Non-Coring	m		100		
			Coring			170		
xii	DH-12	HRT1		m		185		
xiii	R1	Near Highway- U/s dam axis		m		50		
xiv	R2	Near Highway- D/s dam axis		m		50		
xv	R3	Below Road		m	50			
	Sub-total							

3	In-situ Test					
i	Constant Head Test	Nos.	As per ToR	20		
ii	Standard Penetration Test	Nos.		10		
iii	Water Permeability Test	Nos.		300		
iv	Hydrofracture Test	Set		1		
	Sub-total					
4	Laboratory Rock Test					
i	Index rock properties, natural water content test, porosity, unit weight, specific gravity, water absorption, density	Nos.	As per ToR	90		
ii	Brazilian test	Nos.		90		
iii	Triaxial compressive test with MI value	Nos.		90		
iv	Sonic velocity test	Nos.		90		
v	Petrographic analysis	Nos.		90		
vi	Direct shear test	Nos.		90		
vii	Unconfined compression test (without strain measurement)	Nos.		90		
viii	Unconfined compression test (with strain measurement)	Nos.		90		
	Sub-total					
	Total					

Lot IV: Exploratory Core Drilling and Associated Tests at HRT and Powerhouse for Chamkharchhu IV HPP

Currencies in accordance with ITB 16							
Date: _____							
RFB No: _____							
Alternative No: _____							
Page N° _____ of _____							
1	2		3	4	5	6	5x6 =7
SN	Description of Services		Unit	Delivery Date	Estimated Depth /Qty	Unit Price	Total Price
	DH ID	Borehole location					
1	Mobilization/Demobilization		LS				
2	Drilling Work						
i	DH-13	HRT- 2	m	As per ToR	255		
ii	DH-14	HRT- 3	m		75		
iii	DH-15	Surge shaft	m		110		
iv	DH-16	Drop shaft	m		340		
v	DH-17	Powerhouse	Non-coring		100		
			Coring		200		
vi	DH-18	Main access tunnel (MAT)	m		50		
vii	DH-19	TRT portal	m		40		
	Sub-total						
3	In-situ Test						
i	Water Permeability Test		Nos.	As per ToR	312		
ii	Hydrofracture Test		Set		2		
	Sub-total						
4	Laboratory Rock Test						
i	Index rock properties, natural water content test, porosity, unit weight, specific gravity, water absorption, density		Nos.	As per ToR	42		

ii	Brazilian test	Nos.		42		
iii	Triaxial compressive test with MI value	Nos.		42		
iv	Sonic velocity test	Nos.		42		
v	Petrographic analysis	Nos.		42		
vi	Direct shear test	Nos.		42		
vii	Unconfined compression test (without strain measurement)	Nos.		42		
viii	Unconfined compression test (with strain measurement)	Nos.		42		
	Sub-total					
	Total					

Section V - Eligible Countries

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

In reference to ITB 4.8, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this Bidding process:

Under ITB 4.8 (a) *[insert a list of the countries following approval by the Bank to apply the restriction or state “none”]*

Under ITB 4.8 (b) *[insert a list of the countries following approval by the Bank to apply the restriction or state “none”]*

Section VI - Fraud and Corruption

(Section VI shall not be modified)

1. Purpose

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

2. Requirements

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

2.2 To this end, the Bank:

a. Defines, for the purposes of this provision, the terms set forth below as follows:

- i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
- iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
- v. "obstructive practice" is:
 - (a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
 - (b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.

b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-

- contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
 - d. Pursuant to the Bank's Anti- Corruption Guidelines and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;¹ (ii) to be a nominated² sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
 - e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents, personnel, permit the Bank to inspect³ all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

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

² A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

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

Part II – Employer’s Requirement

Section VII - Activity Schedule

1. Activity Schedule: Lot I: Exploratory Core Drilling and Associated Tests at Head Works and HRT for Chamkharchhu II HPP

SN	DH ID	Borehole location		Unit	Qty (Nos)	Depth (m)	Total Depth (m)	Remarks
1	Mobilization/Demobilization			LS				
2	Drilling Work							
i	DH-01	Barrage Axis (L/B) - Barrage Top		m	1	50	50	Vertical
ii	DH-02	Barrage Axis - (R/B) - RBL		m	1	50	50	Vertical
iii	DH-03	Barrage Axis (R/B) – Barrage Top		m	1	50	50	Vertical
iv	NH-01	Barrage Axis (R/B) – Barrage Top		m	1	50	50	Vertical
v	NH-02	Barrage Axis (R/B) – RBL: Inclined		m	1	50	50	Inclined
vi	NH-03	Barrage Axis (L/B) – RBL		m	1	50	50	Vertical
vii	NH-04	Barrage Axis (L/B) – Barrage Top		m	1	50	50	Vertical
viii	DH-04	Intake - R/B		m	1	45	45	Vertical
ix	DH-05	U/s Coffe Dam - LB		m	1	50	50	Vertical
x	DH-06	Barrage Toe - R/B		m	1	40	40	Vertical
xi	DH-07	Barrage Toe - L/B		m	1	40	40	Vertical
xii	DH-08	Plunge Pool		m	1	70	70	Vertical
xiii	DH-09	DT Inlet - L/B		m	1	50	50	Vertical
xiv	DH-10	Desilting Chamber	Non-Coring	m	1	150	150	Vertical
			Coring			165	165	Vertical
xv	DH-11	HRT-1		m		75	75	Vertical
xvi	DH-12	HRT - 2		m	1	90	90	Vertical
Sub-Total					16		1,125	
3	In-situ Test							
i	Constant Head Test			Nos.	120			
ii	Standard Penetration Test			Nos.	120			
iii	Water Permeability Test			Nos.	300			
iv	Hydrofracture Test			Set	3			
Sub-Total					543			
4	Laboratory Rock Test							
i	Index rock properties, natural water content test, porosity, unit weight, specific gravity, water absorption, density			Nos.	52			2 samples from each litho unit. The test sample number is
ii	Brazilian test			Nos.	52			
iii	Triaxial compressive test with MI value			Nos.	52			
iv	Sonic velocity test			Nos.	52			

SN	DH ID	Borehole location	Unit	Qty (Nos)	Depth (m)	Total Depth (m)	Remarks
v		Petrographic analysis	Nos.	52			subjected to change based on its drilling depth.
vi		Direct shear test	Nos.	52			
vii		Unconfined compression test (without strain measurement)	Nos.	52			
viii		Unconfined compression test (with strain measurement)	Nos.	52			
Sub-Total				416			
Total (1+2+3+4)				975			

Note: The borehole should be executed at the given depth or 15 m in the fresh rock whichever is earlier. However, the depth is tentative and is subject to change as per the site conditions.

2. Terms of Reference including Performance Specifications and Drawings - Lot I: Exploratory Core Drilling and Associated Tests at Head Works and HRT for Chamkharchhu II HPP

i. BACKGROUND

As Bhutan advances, ensuring a stable and sustainable energy supply remains a national priority. Rising electricity demand highlights the need for continued investment in renewables such as hydropower, solar, and wind.

To date, Bhutan has developed projects with a total installed capacity of 2,453 MW. The Chamkharchhu HPP was identified in the Power System Master Plan (PSMP) of 1993, updated in 2001–2003. In 2011, the Department of Hydropower and Power Systems (now DoE) prepared a Reconnaissance Study Report (RSR) of 15 hydropower projects, which found Chamkharchhu II & III to be the most promising. Pre-feasibility studies were later conducted by Lahmeyer International (India) Pvt. Ltd. in 2015, confirming their potential as integrated projects.

The Chamkharchhu River, originating from the Gangkar Punsum and Monla Karchung glaciers, drains a 2,718 km² catchment area in Shingkar Gewog, Zhemgang. The proposed 590 MW Chamkharchhu II HPP will strengthen Bhutan's clean energy capacity, improve grid reliability, and reduce fossil fuel dependence. Its DPR will be financed by the World Bank under the ACCESS Project (sub-component 3.3).

As part of the DPR preparation for the Chamkharchhu-II HPP, a team from Druk Green Consultancy conducted a site visit to assess potential project layout. During the assessment, the team identified the need for preliminary geotechnical and geophysical investigations at key locations near the proposed intake, surge shaft, and powerhouse area.

ii. PROJECT LOCATION AND ACCESSIBILITY

Chamkharchhu-II HPP is proposed to be developed on Chamkharchhu, administratively in Zhemgang Dzongkhag. The proposed Chamkharchhu-II HPP is located approximately 97 km from the Chubda lake and about 21 km upstream of Chamkharchhu-I HPP. The project envisages construction of 29.70 m high barrage above riverbed along with a Desilting Chamber, Headrace Tunnel, Surge Shaft, Pressure Shaft and Underground Powerhouse, which shall accommodate four units with a total installed capacity of 590 MW.

The diversion structure of the project is being proposed at approximately 2 km upstream of Shingkar village. The proposed Powerhouse is located approximately 2.2 km from lower Thirsa village towards southwest and approximately 1.7 km from Bardo Samay village towards west. Both the diversion site and the powerhouse are in Zhemgang Dzongkhag.

iii. PROJECT GEOLOGY

The geological formation of the project area falls within high-grade metamorphic rocks of the Central Crystalline Zone, also referred to as the Sure Crystalline Unit (Gansser, 1983). The lithological sequence is predominantly composed of mica granite gneisses with frequent intercalations of garnet-kyanite bearing schists. Pegmatite dykes and pegmatitic granites are also commonly observed.

Structurally, the gneissic formation overlies low-grade Tethyan sedimentary rocks along a reverse fault (Gansser, 1983; Bhargava, 1995). Regional geological mapping indicates that no major faults or thrusts traverse the project area, although minor faults and lineaments may occur locally. Gneiss remains the dominant rock type throughout the project area.

iv. OBJECTIVE OF INVESTIGATION

Sub-surface exploratory drillings are carried out to study and understand geological and geotechnical features within the project area and their influence on the location of the project components. This will help in locating and orienting the components to evolve safe economic designs for construction of these structures. For this purpose, the investigation shall aim at determining the following, but not limited to:

- Characteristics and types of lithological units present in the area
- Characteristics of significant geological and structural features such as bedding/foliation, joints, fissures, folds, faults, shear zones, dykes, cavities etc. and their influence on structural stability of project components
- Thickness of overburden and weathering limits
- Permeability of overburden and bedrock
- Depth of ground water table
- Index and other geotechnical properties of soil and rock
- Relative density, bearing capacity and settlement of overburden material (granular soil)
- Slope stability

v. SCOPE OF INVESTIGATION

The following scope of work needs to be carried out for the project to achieve the aforementioned objectives:

- Rotary Core Drilling and/or Shell and Auger Drilling in Colluvium, Alluvium, and Rotary Core Drilling in Bedrock
- Field In-situ Test
- Laboratory Test

a. Rotary Core Drilling and/or Shell and Auger Drilling Work

While driving through overburden, initially higher size (diameter) such as “H” series casing with required shoe bit shall be used and to obtain the best core recovery, “N” series of casing and rod is used. Skill of drilling crew is also of paramount importance and as per circumstances with respect to depth and formation such as overburden or rock etc. the use of proper (surface set or impregnated) bits, correct speed of rotation, bit pressure, and feed pump pressure and discharge are to be regulated to obtain optimum output.

Work Plan & Schedule

- The Contractor shall provide and keep an updated work plan giving details on how the various parts of the work are planned, along with a detailed time schedule before the signing of contract agreement.
- The Bidders are highly encouraged to visit the site for estimating the head load and the general project location during the bidding process at their own expense.
- It is understood that Contractor has already got acquainted with the Project area, the local conditions of the site, the general working conditions, the site access, the temperature and overall climatic conditions prior to the award of the work.

Preliminary Site Work

- The Contractor shall be responsible for all the preliminary site works, i.e., making of footpath, rope way, mobilization/demobilization of drilling machines and accessories including, preparation of drilling platform, site accommodation of staff/laborer, temporary waterproof core storage/shed at site, water storage tanks, etc. at their own expenses.
- The Contractor shall carefully review the time required for moving the drill rigs between boreholes, in-situ testing in boreholes, make allowances for equipment maintenance, breakdowns, spare parts and any other factors that could delay progress and agree with the Client for the number and type of rigs to be mobilized to achieve the stipulated time schedule.
- At least three drill rigs must be deployed at the site for expedition of work.

Location & Depth of Boreholes

- The location and depth of boreholes are as shown in the following figures. However, these locations are only tentative and may change depending on the site conditions and Client's requirement.
- The actual location of the boreholes shall be provided by the Client after the award of the contract.

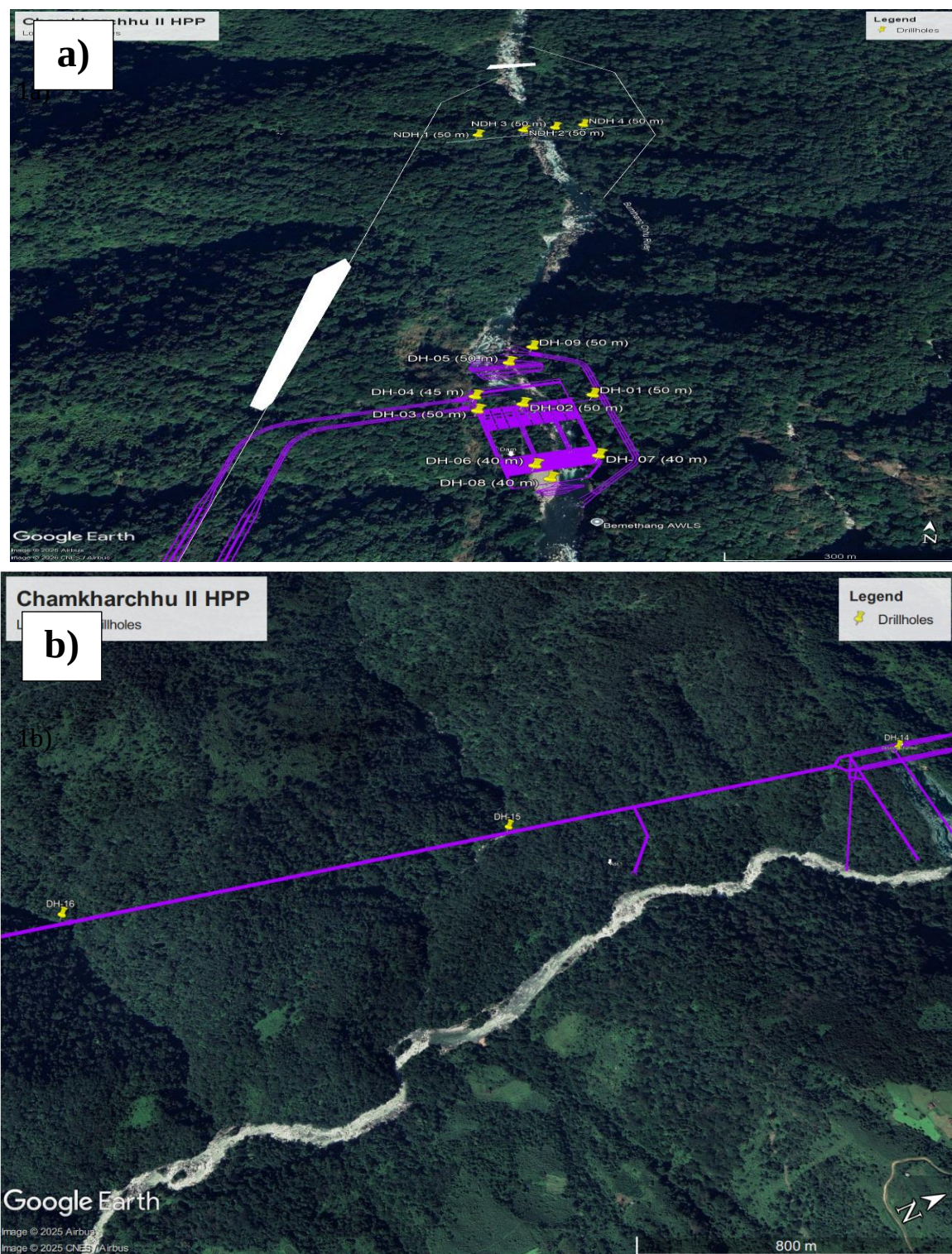


Figure 1a) and 1b): Tentative Location of Drillholes for Lot I Drilling Works

Table 1: Details of the Tentative Drillholes for Lot I Drilling Works

Sl. No.	DH ID	Drill Hole location		Unit	Qty	Dept h (m)	Coordinates		Remarks
							Easting	Northing	
i	DH-01	Barrage Axis (L/B) - Barrage Top		m	1	50	295301.00	3019411.00	Vertical
ii	DH-02	Barrage Axis - (R/B) - RBL		m	1	50	295201.00	3019383.00	Vertical
iii	DH-03	Barrage Axis (R/B) – Barrage Top		m	1	50	295137.00	3019364.00	Vertical
iv	NH-01	Barrage Axis (R/B) – Barrage Top		m	1	50	295101.00	3020241.00	Vertical
v	NH-02	Barrage Axis (R/B) – RBL: Inclined		m	1	50	295182.00	3020264.00	Inclined
vi	NH-03	Barrage Axis (L/B) – RBL		m	1	50	295239.00	3020277.00	Vertical
vii	NH-04	Barrage Axis (L/B) – Barrage Top		m	1	50	295290.00	3020290.00	Vertical
viii	DH-04	Intake - R/B		m	1	45	295132.00	3019400.00	Vertical
ix	DH-05	U/s Cofferdam - LB		m	1	50	295178.00	3019491.00	Vertical
x	DH-06	Barrage Toe - R/B		m	1	40	295221.00	3019234.00	Vertical
xi	DH-07	Barrage Toe - L/B		m	1	40	295308.00	3019261.00	Vertical
xii	DH-08	Plunge Pool		m	1	70	295242.00	3019204.00	Vertical
xiii	DH-09	DT Inlet - L/B		m	1	50	295212.00	3019536.00	Vertical
xiv	DH-10	Desilting Chamber	Non-Coring	m	1	150	294781.00	3018955.00	Vertical
			Coring			165	294781.00	3018955.00	
xv	DH-11	HRT – 1		m	1	75	294514.00	3017572.00	Vertical
xvi	DH-12	HRT - 2		m	1	90	294230.00	3016179.00	Vertical
Total					16	1,125			

Since the location, numbers and depth of the drilling may vary as per the site conditions and quality of the core recovery, the payments shall be made as per actual drilled length of the boreholes executed at site and within the Scope of this Contract.

Specification for Drilling Work

Standards

- The test procedures shall be carried out in accordance with the specified international standard (e.g., ASTM Standard, British Standard, and International Society of Rock Mechanics (ISRM) Suggested Methods, Indian Standards) unless specified by the Client.
- The proposed alternative standards from Contractor shall be formally submitted to the Client for approval.
- The full testing and reporting procedures (including forms) shall be included in the submission.

Drilling Methodology

- Core drilling should be carried out always using triple tube core barrel recovery technique.
- Rotary core drilling shall be carried out using triple tube core barrel. The drilling in the overburden may be done using H series whereas the drilling in the solid rock may be carried out with N series triple tube barrel of core diameter not less than 54.7 mm.
- Wireline core drilling should be carried out using Q series triple tube.
- Appropriate drilling pressure should be applied as per the ground condition to obtain the core with recovery of not less than 90%.

Core Recovery

- Rotary core drilling shall be carried out using triple tube core barrel. The drilling in the overburden may be done using H series whereas the drilling in the solid rock may be carried out with N series of casing/tube. Appropriate drilling pressure should be applied as per the ground condition to obtain the core with recovery not less than 90%.
- In case of non-achievement of 90% core recovery by rotary core drilling method, the Contractor shall carry out drilling by Shell and Auger method to ensure 90% core recovery.
- Maximum of 1.5 m long core run shall be carried out and if the % of core recovery is less than 90%, core run must be reduced to 1 m.
- In the highly weathered zone and where the core recovery is very low, dry drilling shall be carried out with the core length not exceeding 0.5 m.
- Appropriate methodologies like the use of bentonite, polymer, etc. should be carried out to avoid/reduce hole collapse due to caving.

Core recovery of less than 90% in any drill run will not generally be acceptable for payment unless the Client is satisfied that 90% recovery is impracticable under the prevailing geological conditions.

Water

- In general drilling soil or overburden should not be advanced by adding water except in case of dry granular soil. For conditions where the addition of water is permitted, the Contractor shall use the minimum amount of water necessary for advancing the drilling.
- Where boring reveal soft alluvial soils or where sub-artesian groundwater loosens granular soils, the Contractor may be required to add and maintain head of water during drilling, sampling, and testing to avoid disturbances caused by removal of overburden.
- The water used for drilling and testing shall be free from suspended clay and other deleterious materials. If necessary/upon the instruction from the Client, the Contractor shall use settling tanks.

Groundwater Level

- Standing water level measurements shall be made in all boreholes prior to drilling each day as per IS: 6935-1973.
- The first reading in any boreholes shall be taken only after keeping sufficient percolation time or sufficient time for subsidence/drainage if water was used during the drilling procedure.
- The measurements shall be made with electrical dip meters available at all times at each working drilling rig.
- The depth at which sudden flush fluid losses occur shall be accurately recorded. Other conditions such as depth at which groundwater is encountered, fluid gain, artesian flow and perched groundwater tables shall be also reported.

Core Extraction

- The core shall be carefully extracted from the core barrel using a method that does not damage the core. Hammering or banging the core barrel on the ground shall not be permitted.
 - The core should be extracted placing the barrel in horizontal position. The core should be placed immediately in the core boxes in the correct sequence.
 - Soil, weathered rock, highly fractured rock, and sludge will be extracted and sealed in plastic sleeves or cling wrap to permit handling and preserve moisture.
 - The core shall be stored in the core boxes (Mild Steel Box) with a lockable lid (to prevent core disturbance/loss during transportation) and partitions spaced to suit the different core sizes. Handles shall be provided on both long sides to assist transportation of the boxes.
 - The inside of the box lid shall be clearly and indelibly marked with the project name, location, co-ordinates, borehole number, box number, and core depth interval.
-

- Core boxes shall be kept off the ground and dry while at the drilling site.
- The core run shall be marked with proper direction on wooden block which divides the core.
- The core losses shall be marked in the correct position based on the condition of drilling (not at the end of the run) with a block of same length. The block shall be marked “core loss” and the core loss depth interval given.
- Where core samples are taken from the core box, they will be replaced with a wood block of the same length as the sample. The block shall be marked “sample” and the sample depth interval given.
- Photographs of core should be taken right after its retrieval. Before taking a photograph, the core shall be dampened if required to highlight the natural color and fabric of the core. The photographs shall be in sharp focus and of true color.
- Any wrapped core shall be unwrapped for the photo and rewrapped afterwards. Strong shadows on the core shall be avoided (flash shall not be used).
- All block markings shall be legible on the core photographs. The photographs shall be submitted to the Client for approval. Any photos that do not satisfy the above requirements shall be re-photographed until satisfactory or at the instruction of the Client.
- The scale of the photograph should also be maintained throughout the photograph.

Core Boxes & Storage

- Contractor should use mild steel core boxes for the storage of drilled cores where the boxes shall be of robust construction with a lockable lid (to prevent core disturbance/loss during transportation) and partitions spaced to suit the different core sizes.
- Handles shall be provided on both long sides to assist transportation of the boxes. The size of the core boxes shall be as specified in IS: 4078 -1980.
- Both inside and outside of the lid of the box shall be clearly and indelibly marked with the project name, location, borehole number, box number and core depth interval as given in Table 2.
- Core boxes shall be kept off the ground above the High Flood Level for safety and dry while at the drill site.
- Full core boxes shall be stored in a weatherproof temporary core shed at a secure location close to the site and the core shed shall be provided by the Contractor.

Table 2: Labels Necessary on the Core Boxes

Name of the Project	 Hydropower Project
Name of the Contractor	M/s.....
Borehole number	DH.....
Executed depth and angle	m, degree
Co-ordinates of borehole	 E,N
Collar Elevation of borehole	m
Location of borehole	
Core box number and Core run number	

Daily Drill Record (DDR) and Core Logs

- The Contractor shall deploy a Geologist on full time basis for core logging, conducting in-situ tests and to attend to any issues during the execution of the drilling. The Contractor shall prepare core logs and daily drilling report in a proper format as shown in the **Table 3** and **Table 4**.
- The progress of drilling along with core photographs and description of recovery needs to be submitted to the Client daily.
- The DDR should include any information that may be relevant to the interpretation of the geological or ground water conditions and the logging of the core.
- In addition to the groundwater items noted, it should also record such matters as the depths and reasons for core losses, hole instability, cavities, unusually hard or soft layers, change in the color of return water, sudden change in the speed of rotation of drilling and any drilling difficulties associated with the geological conditions.
- The rate of drilling and sudden drop of the core barrel shall be accurately noted and recorded in the log for better understanding of the sub-surface conditions.
- Any water loss and color of return water shall be recorded.
- Ground water table shall be recorded daily before and at closing of drill work.
- The DDR and final log should be at the disposal of the Client on their demand.

Table 3: Daily Drilling Record Format

PROJECT:				CO-ORDINATES:				RIG TYPE:								
LOCATION:				ELEVATION:				PUMP TYPE:								
BORE HOLE NO:				ROD TYPE:												
ANGLE FROM HORIZONTAL:																
Date	DRILLING DEPTH		PENETRATION RATE		CORE RECOVERY		ROCK QUALITY DESIGNATION			WATER STATUS			SL.NO OF CORE PIECES		Standard Penetration Test (No. of Blows)	Remarks
	From	To	Drilling Run (m)	Drilling Time (min) Penetration Rate (cm/min)	Core Length (m) Core Recovery (%)	Number of Core Pieces > 10cm Total Core Length RQD (%)	Colour of Return Water Water Loss Water Level (am and pm)	Casing Size Bit/Barrel Used Formation	From	To						

Table 4: Core Logging Format

DRILL HOLE NO:																								
SHEET NO:																								
PROJECT:																								
LOCATION:				CO-ORDINATES:																				
BEARING OF HOLE:				ANGLE WITH HORIZONTAL:								TOTAL DEPTH:												
COLLAR ELEVATION:				GROUND ELEVATION:								TYPE(S) OF CORE BARREL:												
STARTED:				COMPLETED:								DRILLING AGENCY:												
LITHOLOGY				SIZE OF CORE PIECES				STRUCTURAL CONDITION		CORE RECOVERY (%)		RQD%	Fracture Frequency	Type of Bit	Size of Hole	Casing	Depth of Water level	DRILL WATER LOSS			PERMEABILITY		Penetration Rate (cm/min)	Special Observations and Interpretations
Elevation(m)	Description	Depth (m)	Log	<10mm	10 to 25 mm	25 to 75mm	75 to 150mm	> 150mm	Description	Log	20							40	60	100	Nil	Partial		

Completion of Borehole

- The borehole shall be measured by the Contractor in presence of the Client prior to removal of casings on completion of each borehole
- All completed boreholes shall be capped with concrete monuments cast into the ground with permanent labelling of borehole details (borehole no., depth, angle, elevation, etc.). The boreholes with standpipes shall have a lockable cap to allow access to the standpipe
- The Client shall identify a long-term storage facility for the cores. The Contractor shall deliver the cores from the temporary store to the long-term storage facility when instructed by the Client. As an alternative for practice of Index and Storing of cores, IS: 4078-1980 may be used
- The Contractor's geologist shall log the core after completion of each borehole and submit the complete log to Client within a week of completion of the borehole.

b. Field In-Situ Test

In-situ tests on sub-surface soil and rock shall be performed to determine the permeability, density, plasticity, and water permeability in rock as per the International Standards. These studies shall be carried out both for soil and rock layers present in the sub-surface. The results of these studies shall help understand the features of the soil and rock.

Standards

- The tests shall be conducted as a parallel activity along with the drilling works.
- All the accessories and measuring instruments, test and the report format shall be as per the Indian or international standards.

Constant Head Test (CHT) in Overburden

- The test shall be carried out in the overburden material for boreholes at the intake (i.e., DH 01, DH 02, DH 03, DH 04, DH 05, DH 06, DH 08, DH 09, DH 10, and DH11).
- The method of In-situ CHT should be conducted as per IS: 5529-2013 (Part 1) or any other international standards.
- For boreholes, the frequency of tests shall be performed at every 3 m interval of drilled length.

Standard Penetration Test (SPT) in Overburden

- The test shall be carried out in the overburden material for boreholes at the intake (i.e., DH 01, DH 02, DH 03, DH 04, DH 05, DH 06, DH 08, DH 09, DH 10, and DH11).
- The method of In-situ CHT should be conducted as per Indian Standard or any other international standards.
- For boreholes, the frequency of tests shall be performed at every 3 m interval of drilled length.

Water Pressure Test (WPT) in Bedrock

- The test shall be carried out with a single pneumatic packer wherever possible. The packer shall be such that there is no leakage during the pressure testing.
- The packers shall be liable for Quality Control check by the Client before the commencement of testing.
- The method of In-situ WPT should be conducted as per IS: 5529-2013 (Part 2) or any other international standards.
- For boreholes, the frequency of test shall be performed at every 3 m interval of drilled length.

Hydrofracturing Test

- The test shall be carried out in the bedrock for boreholes at desilting chamber and HRT i.e., DH-14, DH-15, and DH-16 to ascertain the in-situ stress condition.

- The method of In-situ Hydro-fracturing test should be conducted as per IS: 13946-2022 (Part 1) or any other international standards.
- The length of the test section shall be chosen based on the drilling condition with a minimum length of five times the diameter of the drill hole.

C. Laboratory Testing

- The Contractor shall carry out the laboratory testing from the certified and reputed laboratories approved by clients.
- All the tests shall be performed in accordance with international standards.
- The sample required for the laboratory test shall be selected by the Client.
- Packing of selected samples shall be carried out by Contractor such as to avoid breakage of samples during transportation.

The laboratory tests to be carried out for rock samples are as listed in **Table 5**.

Table 5: Laboratory Test for Core Samples

Index rock properties (Natural water content test, Porosity, Unit weight, Density, Specific gravity, Water absorption)	Direct Shear test
Unconfined Compression Test (with strain measurement)	Petrographic Analysis
Unconfined Compression Test (without strain measurement)	Sonic Velocity Test
Brazilian Test	Triaxial Compressive Test with MI value

VI. DOCUMENTATION

Upon completion of geological and geotechnical investigation, the data generated from these investigations including the results of laboratory shall be documented. The documentation shall present a comprehensive assessment and description of the geology of the area and existing discontinuity features of the area. It shall be limited, however, to an effective combination of brief discussions, tabulated data, and geological illustrations to depict the conditions that are of engineering significance. The documentation shall focus on the following topics:

- Description of the dominating rock types and their structural features
- Dominant geotechnical features observed in boreholes
- Engineering description of soils and of their relationship to the bedrock.
- Delineation of problematic zones such as shear, faults, folds from the investigation results.
- Possible impact on project components during and after construction due to these geological and geotechnical features.
- Remedies used for the special problems while execution of work.

The subsurface investigations, laboratory tests and geological illustrations in the investigation reports should be sufficiently comprehensive to supply reliable information on all geological conditions that can influence the design, construction and cost of the project. The following data shall be included in the documentation as applicable. Each soft and hard copy of final report shall be submitted to the Client.

- Geological logs of drilling work including results of permeability test
- Laboratory test data and plots.

VII. SCHEDULE

- Considering drilling by minimum of three machines, it is planned to complete the drilling work for Lot I by **315 days** including mobilization and site preparation, drilling and final report submission.

Table 8: Tentative Schedule for the Lot I Drilling Works

Particulars	Drilling Depth (m)	Mobilization and Site Preparation (days)	Completion of drilling and testing (days)	Laboratory test and report preparation	Report Submission (days)	Total number of days
Exploratory drilling, In-situ, laboratory test and report submission	1,125	75	195	30	15	315

Note: Contractor to deploy minimum of three drilling rigs at the site

- Based on the tentative scope of work, the firm shall deploy adequate manpower and equipment to complete the work and shall submit the final geotechnical studies report for the project after **15 days** of completion of work including the results of any comments received on the draft report from the hearing process.

3.Activity Schedule: Lot II: Exploratory Core Drilling and Associated Tests at HRT at Powerhouse for Chamkharchhu II HPP

SN	DH ID	Borehole location		Unit	Qty (Nos)	Depth (m)	Total Depth (m)	Remarks
1	Mobilization/Demobilization			LS				
2	Drilling Work							
i	DH17	HRT - 3		m	1	80	340	Vertical
iii	DH18	Surge Shaft		m	1	130	130	Vertical
iv	DH19	Pressure Shaft		m	1	345	345	Vertical
v	DH20	Powerhouse Cavern	Non-Coring	m	1	125	325	Vertical
			Coring			200		
vi	DH21	Tail Race Tunnel		m	1	40	40	Vertical
Sub-Total					6		920	
3	In-Situ Test							
i	Water Permeability Test			Nos.	273			
ii	Hydrofracture Test			Set	3			
Sub-Total					276			
4	Laboratory Test							
i	Index rock properties, natural water content test, porosity, unit weight, specific gravity, water absorption, density			Nos.	20	3 samples from each litho-unit. Anticipated two litho-units from each hole. The number of test samples is subject to change based on the drilling depth and changes in lithology		
ii	Brazilian test			Nos.	20			
iii	Triaxial compressive test with MI value			Nos.	20			
iv	Sonic velocity test			Nos.	20			
v	Petrographic analysis			Nos.	20			
vi	Direct shear test			Nos.	20			
vii	Unconfined compression test (without strain measurement)			Nos.	20			
viii	Unconfined compression test (with strain measurement)			Nos.	20			
Sub-Total					160			
5	Laboratory Soil Test							
i	Index Properties (Natural Water Content Test, Porosity, Unit Weight, Specific Gravity, Water Absorption, Density, Void Index)			Nos.	6	2 samples from each overburden material type with the expected 3 overburden material types. The test sample number is subjected to change based on its drilling depth. The test is to be conducted only for the surge shaft area if the alignment changes to check the slope stability in the area.		
ii	Gradation Analysis			Nos.	6			
iii	Hydrometer Test			Nos.	6			
iv	Atterberg Limits			Nos.	6			
v	Oedometric Test (Consolidation)			Nos.	6			
vi	Direct Shear Test (CD)			Nos.	6			
vii	Direct Shear Test (CU)			Nos.	6			
viii	Triaxial Test (CD)			Nos.	6			

SN	DH ID	Borehole location	Unit	Qty (Nos)	Depth (m)	Total Depth (m)	Remarks
ix	Triaxial Test (CU)		Nos.	6			
x	Cyclic Triaxial Test (UU)		Nos.	6			
Sub-Total				60			
Total (1+2+3+4+5)				502			

Note: The borehole should be executed at the given depth or 15 m in the fresh rock whichever is earlier. However, the depth is tentative and is subject to change as per the site conditions

4. Terms of Reference including Performance Specifications and Drawings: Lot II: Exploratory Core Drilling and Associated Tests at HRT at Powerhouse for Chamkharchhu II HPP

1. BACKGROUND

As Bhutan advances, ensuring a stable and sustainable energy supply remains a national priority. Rising electricity demand highlights the need for continued investment in renewables such as hydropower, solar, and wind.

To date, Bhutan has developed projects with a total installed capacity of 2,453 MW. The Chamkharchhu HPP was identified in the Power System Master Plan (PSMP) of 1993, updated in 2001–2003. In 2011, the Department of Hydropower and Power Systems (now DoE) prepared a Reconnaissance Study Report (RSR) of 15 hydropower projects, which found Chamkharchhu II & III to be the most promising. Pre-feasibility studies were later conducted by Lahmeyer International (India) Pvt. Ltd. in 2015, confirming their potential as integrated projects.

The Chamkharchhu River, originating from the Gangkar Punsum and Monla Karchung glaciers, drains a 2,718 km² catchment area in Shingkar Gewog, Zhemgang. The proposed 590 MW Chamkharchhu II HPP will strengthen Bhutan's clean energy capacity, improve grid reliability, and reduce fossil fuel dependence. Its DPR will be financed by the World Bank under the ACCESS Project (sub-component 3.3).

As part of the DPR preparation for the Chamkharchhu-II HPP, a team from Druk Green Consultancy conducted a site visit to assess potential project layout. During the assessment, the team identified the need for preliminary geotechnical and geophysical investigations at key locations near the proposed intake, surge shaft, and powerhouse area.

2. PROJECT LOCATION AND ACCESSIBILITY

Chamkharchhu-II HPP is proposed to be developed on Chamkharchhu, administratively in Zhemgang Dzongkhag. The proposed Chamkharchhu-II HPP is located approximately 97 km from the Chubda lake and about 21 km upstream of Chamkharchhu-I HPP. The project envisages construction of 29.70 m high barrage above riverbed along with a Desilting Chamber, Headrace Tunnel, Surge Shaft, Pressure Shaft and Underground Powerhouse, which shall accommodate four units with a total installed capacity of 590 MW.

The diversion structure of the project is being proposed at approximately 2 km upstream of Shingkar village. The proposed Powerhouse is located approximately 2.2 km from lower Thrisa village towards southwest and approximately 1.7 km from Bardo Samay village towards west. Both the diversion site and the powerhouse are in Zhemgang Dzongkhag.

3. PROJECT GEOLOGY

The geological formation of the project area falls within high-grade metamorphic rocks of the Central Crystalline Zone, also referred to as the Sure Crystalline Unit (Gansser, 1983). The lithological sequence is predominantly composed of mica granite gneisses with frequent intercalations of garnet-kyanite bearing schists. Pegmatite dykes and pegmatitic granites are also commonly observed.

Structurally, the gneissic formation overlies low-grade Tethyan sedimentary rocks along a reverse fault (Gansser, 1983; Bhargava, 1995). Regional geological mapping indicates that no major faults or thrusts traverse the project area, although minor faults and lineaments may occur locally. Gneiss remains the dominant rock type throughout the project area.

4. OBJECTIVE OF INVESTIGATION

Sub-surface exploratory drillings are carried out to study and understand geological and geotechnical features within the project area and their influence on the location of the project components. This will help in locating and orienting the components to evolve safe economic designs for construction of these structures. For this purpose, the investigation shall aim at determining the following, but not limited to:

- Characteristics and types of lithological units present in the area
- Characteristics of significant geological and structural features such as bedding/foliation, joints, fissures, folds, faults, shear zones, dykes, cavities etc. and their influence on structural stability of project components
- Thickness of overburden and weathering limits
- Permeability of overburden and bedrock
- Depth of ground water table
- Index and other geotechnical properties of soil and rock
- Relative density, bearing capacity and settlement of overburden material (granular soil)
- Slope stability

5. SCOPE OF INVESTIGATION

The following scope of work needs to be carried out for the project to achieve the aforementioned objectives:

- Core Drilling Work
- Field In-situ Test
- Laboratory Test

5.1 Core Drilling Work

a. Work Plan & Schedule

- The Contractor shall provide and keep an updated work plan giving details on how the various parts of the work are planned, along with a detailed time schedule before the signing of contract agreement.
- The Bidders are highly encouraged to visit the site for estimating the head load and the general project location during the bidding process at their own expense.
- It is understood that Contractor has already got acquainted with the Project area, the local conditions of the site, the general working conditions, the site access, the temperature and overall climatic conditions prior to the award of the work.

b. Preliminary Site Work

- The Contractor shall be responsible for all the preliminary site works, i.e., making of footpath, rope way, mobilization/demobilization of drilling machines and accessories including, preparation of

drilling platform, site accommodation of staff/laborer, temporary waterproof core storage/shed at site, water storage tanks, etc. at their own expenses.

- The Contractor shall carefully review the time required for moving the drill rigs between boreholes, in-situ testing in boreholes, make allowances for equipment maintenance, breakdowns, spare parts and any other factors that could delay progress and agree with the Client for the number and type of rigs to be mobilized to achieve the stipulated time schedule.
- At least two drill rigs must be deployed at the site for expedition of work.

c. Location & Depth of Boreholes

- The location and depth of boreholes are as shown in the following figures. However, these locations are only tentative and may change depending on the site conditions and Client's requirement.
- The actual location of the boreholes shall be provided by the Client after the award of the contract.

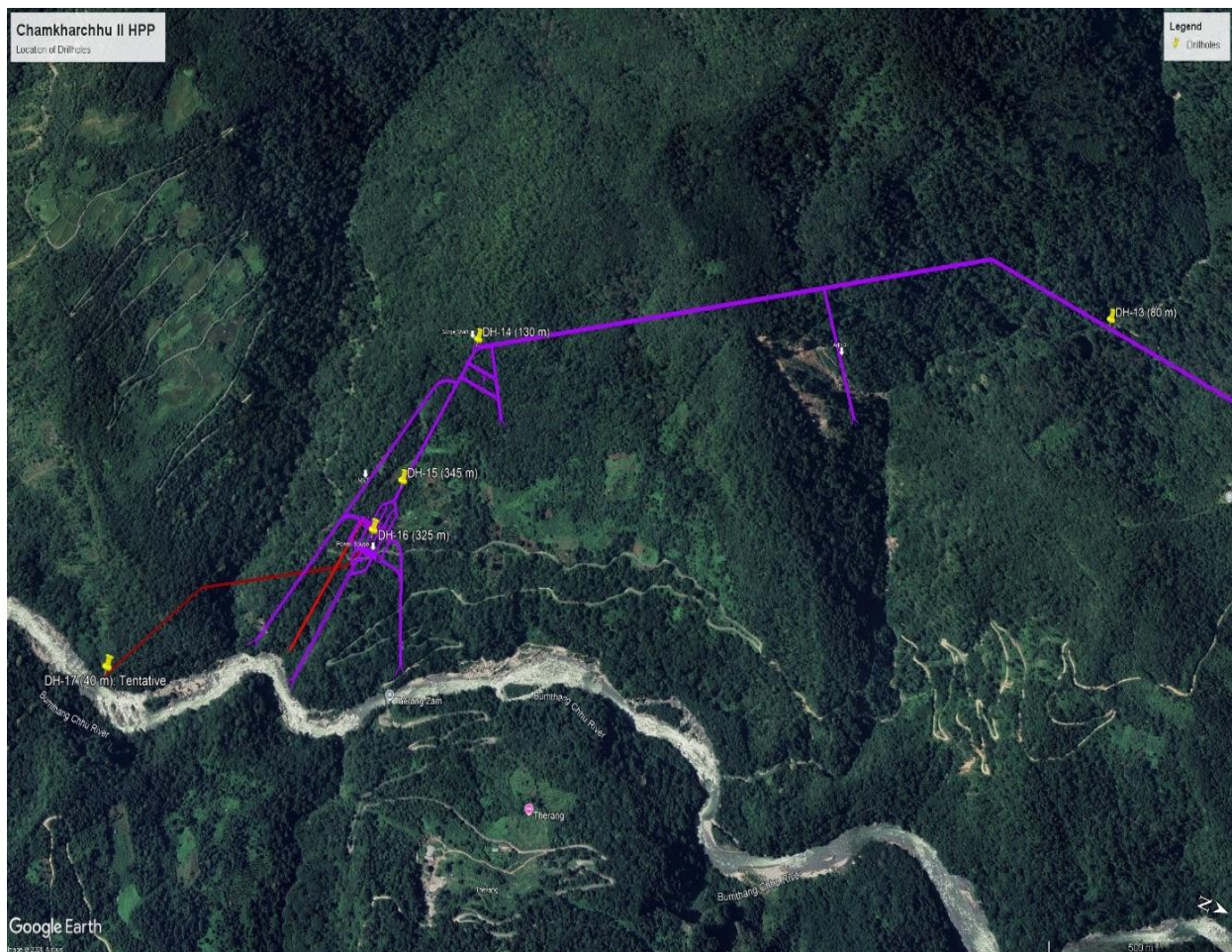


Figure 1: Tentative Location of Drillholes for Lot II Drilling Works

Table 1: Details of the Tentative Drillholes for Lot II Drilling Works

Sl. No.	DH ID	Drill Hole location		Unit	Qty	Depth (m)	Coordinates		Remarks
							Easting	Northing	
i	DH13	HRT - 3		m	1	80	294374.00	3012031.00	Vertical
ii	DH14	Surge Shaft		m	1	130	295153.00	3010105.00	Vertical
iii	DH15	Pressure Shaft		m	1	345	295447.00	3010066.00	Vertical
iv	DH16	Powerhouse Cavern	Non-coring	m	1	125	295771.00	3010019.00	Vertical
			Coring			200			
v	DH17	Tail Race Tunnel		m	1	40	296365.00	3009438.00	Vertical
Total					5	920			

Since the location, numbers and depth of the drilling may vary as per the site conditions and quality of the core recovery, the payments shall be made as per actual drilled length of the boreholes executed at site and within the Scope of this Contract.

d. Specification for Drilling Work

Standards

- The drilling methodology and procedures shall be carried out in accordance with the specified international standards (e.g., ASTM Standard, British Standard and International Society of Rock Mechanics (ISRM), Suggested Methods, Indian Standards) unless specified by the Client.
- The proposed alternative standards from Contractor shall be formally submitted to the Client for approval.
- Full testing and reporting procedures (including forms) shall be included in the submission.

Drilling Methodology

- Conventional or Wireline core drilling methodology to be opted based on Client's recommendation.
- Core drilling should be carried out always using triple tube core barrel recovery technique.
- The conventional drilling in overburden may be done using S or H series double tube barrel whereas drilling in the rock may be carried out with N series triple tube barrel of core diameter not less than 54.7 mm.
- Wireline core drilling should be carried out using Q series triple tube.
- Appropriate drilling pressure should be applied as per the ground condition to obtain the core with recovery of not less than 90%.

Core Recovery

- Core drilling shall produce circular cores of specified diameter throughout the core length.
- The type of drill bit, drilling rates and management of the drill shall be in a way that 100% core recovery can be obtained in any drill run where the condition of the soil/rock permits.
- A maximum of 1.5 m long core run shall be carried out and if the recovery is less than 90%, core run must be reduced to 1m.
- In the highly weathered zone and where the recovery is very low, dry drilling shall be carried out with the core length not exceeding 0.5 m.
- Appropriate methodologies like the use of bentonite, polymer, etc. should be carried out to avoid/reduce hole collapse due to caving.

Core recovery of less than 90% in any drill run will not generally be acceptable for payment unless the Client is satisfied that 90% recovery is impracticable under the prevailing geological conditions.

Water

- The water used for drilling and testing shall be free from suspended clay and other deleterious materials. If necessary/upon the instruction from the Client, the Contractor shall use settling tanks.
- The Contractor shall not advance the drilling into soil or overburden by forcing water except in the case of dry granular soils.
- Where borings reveal soft alluvial soils or sub-artesian groundwater loosens granular soils, the Contractor may be required to add and maintain a head of water during drilling, sampling, and testing in order to avoid disturbance caused by the removal of the overburden.

Groundwater Level

- Standing water level measurements shall be made in all boreholes prior to drilling each day as per IS: 6935-1973.
- The first reading in any boreholes shall be taken only after keeping sufficient percolation time or sufficient time for subsidence/drainage if water was used during the drilling procedure.
- The measurements shall be made with electrical dip meters available at all times at each working drilling rig.
- The depth at which sudden flush fluid losses occur shall be accurately recorded. Other conditions such as depth at which groundwater is encountered, fluid gain, artesian flow and perched groundwater tables shall be also reported.

Core Extraction

- The core shall be carefully extracted from the core barrel using a method that does not damage the core. Hammering or banging the core barrel on the ground shall not be permitted.
- The core should be extracted by placing the core barrel in horizontal position. The core will be stored in the core box (Mild Steel Box) immediately in the correct sequence. Direction of sequence shall be marked on the core.
- The core divider (steel divider) shall be placed between cores after each run and shall be marked with core depth.
- Highly weathered/fractured rock, fine materials and sludge shall be extracted and sealed in plastic sleeves to permit handling and preserve moisture.
- The core losses shall be marked in the correct position (not at the end of the run) with a wood block of the same length. The block shall be marked “core loss” and the core loss depth interval given.
- Where core samples are taken from the core box, they will be replaced with a wood block of the same length as the sample. The block shall be marked “sample” and the sample depth interval given.
- Photographs of core should be taken right after its retrieval. Before taking a photograph, the core shall be dampened if required to highlight the natural color and fabric of the core. The photographs shall be in sharp focus and of true color.
- Any wrapped core shall be unwrapped for the photo and rewrapped afterwards. Strong shadows on the core shall be avoided (flash shall not be used).
- All block markings shall be legible on the core photographs. The photographs shall be submitted to the Client for approval. Any photos that do not satisfy the above requirements shall be re-photographed until satisfactory or at the instruction of the Client. The scale of the photograph should also be maintained throughout the photograph.

Core Boxes & Storage

- Contractor should use mild steel core boxes for the storage of drilled cores where the boxes shall be of robust construction with a lockable lid (to prevent core disturbance/loss during transportation) and partitions spaced to suit the different core sizes.

- Handles shall be provided on both long sides to assist transportation of the boxes. The size of the core boxes shall be as specified in IS: 4078 -1980.
- Both inside and outside of the lid of the box shall be clearly and indelibly marked with the project name, location, borehole number, box number and core depth interval as given in Table 2.
- Core boxes shall be kept off the ground above the High Flood Level for safety and dry while at the drill site.
- Full core boxes shall be stored in a weatherproof temporary core shed at a secure location close to the site and the core shed shall be provided by the Contractor.

Table 2: Labels Necessary on the Core Boxes

Name of the Project	 Hydropower Project
Name of the Contractor	M/s.....
Borehole number	DH.....
Executed depth and angle	m, degree
Co-ordinates of borehole	 E,N
Collar Elevation of borehole	m
Location of borehole	
Core box number and Core run number	

Daily Drill Record (DDR) and Core Logs

- The Contractor shall deploy a Geologist on full time basis for core logging, conducting in-situ tests and to attend to any issues during the execution of the drilling. The Contractor shall prepare core logs and daily drilling report in a proper format as shown in the Table 3 and Table 4.
- The progress of drilling along with core photographs and description of recovery needs to be submitted to the Client daily.
- The DDR should include any information that may be relevant to the interpretation of the geological or ground water conditions and the logging of the core.
- In addition to the groundwater items noted, it should also record such matters as the depths and reasons for core losses, hole instability, cavities, unusually hard or soft layers, change in the color of return water, sudden change in the speed of rotation of drilling and any drilling difficulties associated with the geological conditions.
- The rate of drilling and sudden drop of the core barrel shall be accurately noted and recorded in the log for better understanding of the sub-surface conditions.
- Any water loss and color of return water shall be recorded.
- Ground water table shall be recorded daily before and at closing of drill work.
- The DDR and final log should be at the disposal of the Client on their demand.

Table 3: Daily Drilling Record Format

PROJECT:				CO-ORDINATES:				RIG TYPE:										
LOCATION:				ELEVATION:				PUMP TYPE:										
BORE HOLE NO:								ROD TYPE:										
ANGLE FROM HORIZONTAL:																		
Date	DRILLING DEPTH		PENETRATION RATE		CORE RECOVERY		ROCK QUALITY DESIGNATION			WATER STATUS								
	From	To	Drilling Run (m)	Drilling Time (min)	Penetration Rate (cm/min)	Core Length (m)	Core Recovery (%)	Number of Core Pieces >10cm	Total Core Length	RQD (%)	Colour of Return Water	Water Loss	Water Level (mm and pm)	Casing Size	Bit/Barrel Used	Formation	SL NO OF CORE PIECES	Standard Penetration Test (No. of Blows)

Table 4: Core Logging Format

DRILL HOLE NO:																											
SHEET NO:																											
PROJECT:																											
LOCATION:				CO-ORDINATES:																							
BEARING OF HOLE:				ANGLE WITH HORIZONTAL:				TOTAL DEPTH:																			
COLLAR ELEVATION:				GROUND ELEVATION:				TYPE(S) OF CORE BARREL:																			
STARTED:				COMPLETED:				DRILLING AGENCY:																			
LITHOLOGY		SIZE OF CORE PIECES				STRUCTURAL CONDITION		CORE RECOVERY (%)		Fracture Frequency		Type of Bit		Size of Hole		Casing		Depth of Water level		DRILL WATER LOSS		PERMEABILITY		Penetration Rate		Special Observations and Interpretations	
Elevation (m)	Description	Depth (m)	Log	<10mm	10 to 25 mm	25 to 75mm	75 to 150mm	> 150mm	Description	Log	20	40	60	100	RQD%	Type of Bit	Size of Hole	Casing	Depth of Water level	Nil	Partial	Complete	Test section	cm/sec or Lugon	Penetration Rate (cm/min)	Special Observations and Interpretations	

Completion of Borehole

- The borehole shall be measured by the Contractor in presence of the Client prior to removal of casings on completion of each borehole.
- All completed boreholes shall be capped with concrete monuments cast into the ground with permanent labelling of borehole details (borehole no., depth, angle, elevation, etc.). The boreholes with standpipes shall have a lockable cap to allow access to the standpipe.
- The Client shall identify a long-term storage facility for the cores. The Contractor shall deliver the cores from the temporary store to the long-term storage facility when instructed by the Client. As an alternative for practice of Index and Storing of cores, IS: 4078-1980 may be used.
- The Contractor's geologist shall log the core after completion of each borehole and submit the complete log to Client within a week of completion of the borehole.

5.2 Field In-Situ Test

a. Standards

- The test shall be conducted as a parallel activity along with the drilling works.
- The method of In-situ WPT should be conducted as per IS: 5529-2013 (Part 2) or any other international standards.
- All the accessories and measuring instruments, test and the report format shall be as per the Indian or international standards.

b. WPT in Bedrock

- The test shall be carried out with a single pneumatic packer wherever possible. The packer shall be such that there is no leakage during the pressure testing.
- The packers shall be liable for Quality Control check by the Client before the commencement of testing.
- The method of In-situ WPT should be conducted as per IS: 5529-2013 (Part 2) or any other international standards.
- For boreholes, the frequency of test shall be performed at every 3 m interval of drilled length.

c. Hydrofracturing Test

- The test shall be carried out in the bedrock for boreholes at HRT and Powerhouse cavern(i.e., DH-17, DH-18, and DH-21) to ascertain the in-situ stress condition.
- The method of In-situ Hydro-fracturing test should be conducted as per IS: 13946-2022 (Part 1) or any other international standards.
- The length of the test section shall be chosen based on the drilling condition with a minimum length of five times the diameter of the drill hole.

5.3 Laboratory Test

- The Contractor shall carry out the laboratory testing from the certified and reputed laboratories approved by clients.
- All the tests shall be performed in accordance with international standards.
- The sample required for the laboratory test shall be selected by the Client.
- Packing of selected samples shall be carried out by Contractor such as to avoid breakage of samples during transportation.
- The laboratory tests to be carried out for rock samples are as listed in Table 5.

Table 5: Laboratory Test for Core Samples

Index rock properties (Natural water content test, Porosity, Unit weight, Density, Specific gravity, Water absorption)	Direct Shear test
Unconfined Compression Test (with strain measurement)	Petrographic Analysis
Unconfined Compression Test (without strain measurement)	Sonic Velocity Test
Brazilian Test	Triaxial Compressive Test with MI value

Table 6: Laboratory Test for Overburden and SPT Samples

Index Properties (Natural Water Content Test, Porosity, Unit Weight, Specific Gravity, Water Absorption, Density, Void Index)	Direct Shear Test (CD)
Gradation Analysis	Direct Shear Test (CU)
Hydrometer Analysis	Triaxial Test (CD)
Oedometric Test (Consolidation)	Triaxial Test (CU)
Atterberg Limits	Cyclic Triaxial Test (UU)

Note: The laboratory tests for soil will be conducted for assessing the slope stability for the alternative surge shaft and pressure shaft locations, thus the soil tests are tentative.

6. DOCUMENTATION

Upon completion of geological and geotechnical investigation, the data generated from these investigations including the results of laboratory shall be documented. The documentation shall present a comprehensive assessment and description of the geology of the area and existing discontinuity features of the area. It shall be limited, however, to an effective combination of brief discussions, tabulated data, and geological illustrations to depict the conditions that are of engineering significance. The documentation shall focus on the following topics:

- Description of the dominating rock types and their structural features
- Dominant geotechnical features observed in boreholes
- Engineering description of soils and of their relationship to the bedrock.
- Delineation of problematic zones such as shear, faults, folds from the investigation results.
- Possible impact on project components during and after construction due to these geological and geotechnical features.
- Remedies used for the special problems while execution of work.

The subsurface investigations, laboratory tests and geological illustrations in the investigation reports should be sufficiently comprehensive to supply reliable information on all geological conditions that can influence the design, construction and cost of the project. The following data shall be included in the documentation as applicable. Each soft and hard copy of final report shall be submitted to the Client.

- Geological logs of drilling work including results of permeability test
- Laboratory test data and plots.

7. SCHEDULE

- Considering drilling by minimum of two machines, it is planned to complete the drilling work for Lot I by **270 days** including mobilization and site preparation, drilling and final report submission.

Table 9: Tentative Schedule for the Lot II Drilling Works

Particulars	Drilling Depth (m)	Mobilization and Site Preparation (days)	Completion of drilling and testing (days)	Laboratory test and report preparation	Report Submission (days)	Total number of days
Exploratory drilling, In-situ, laboratory test and report submission	920	45	180	30	15	270

Note: Contractor to deploy two drilling rigs at the site

- Based on the tentative scope of work, the firm shall deploy adequate manpower and equipment to complete the work and shall submit the final geotechnical studies report for the project after **15 days** of completion of work including the results of any comments received on the draft report from the hearing process.

5.Activity Schedule: Lot III: Exploratory Core Drilling and Associated Tests at Head Works and HRT Chamkharchhu IV HPP

SN	DH ID	Borehole location		Unit	Qty (Nos)	Depth (m)	Total Depth (m)	Remarks
1	Mobilization/Demobilization			LS				
2	Drilling Work							
i	DH-01	Dam Axis (L/B) - RBL		m	1	60	60	Vertical
ii	DH-02	Dam Axis - (L/B) – Dam Top		m	1	60	60	Vertical
iii	DH-03	Dam Axis (R/B) - RBL		m	1	60	60	Inclined
iv	DH-04	Dam Axis - (R/B) – Dam Top		m	1	60	60	Vertical
v	DH-05	Dam Toe - L/B		m	1	50	50	Vertical
vi	DH-06	Dam Toe - R/B		m	1	50	50	Vertical
vii	DH-07	Plunge Pool		m	1	50	50	Inclined
viii	DH-08	U/s Cofferd Dam - RB		m	1	40	40	Inclined
ix	DH-09	DT Outlet - R/B		m	1	60	60	Vertical
x	DH-10	Intake		m	1	30	30	Vertical
xi	DH-11	Desilting Chamber	Non-Coring Coring	m	1	100 170	270	Vertical
xii	DH-12	HRT1		m	1	185	185	Vertical
xiii	R1	Near Highway- U/s dam axis		m	1	50	50	Vertical
xiv	R2	Near Highway- D/s dam axis		m	1	50	50	Vertical
xv	R3	Below Road		m	1	50	50	Vertical
Sub-Total					15		1,125	
3	In-situ Test							
i	Constant Head Test			Nos.	20	CHT for DH-2, DH-4, DH-10, R1, R2, & R3.		
ii	Standard Penetration Test			Nos.	10	SPT for DH-2, DH-4 and DH-10.		
iii	Water Permeability Test			Nos.	300			
iv	Hydrofracture Test			Set	1	HFT for DH-11		
Sub-Total					331			
4	Laboratory Rock Test							
i	Index rock properties, natural water content test, porosity, unit weight, specific gravity, water absorption, density			Nos.	90	2 samples from each litho-unit. The test sample number is subjected to change based on its drilling depth.		
ii	Brazilian test			Nos.	90			
iii	Triaxial compressive test with MI value			Nos.	90			
iv	Sonic velocity test			Nos.	90			
v	Petrographic analysis			Nos.	90			
vi	Direct shear test			Nos.	90			
vii	Unconfined compression test (without strain measurement)			Nos.	90			
viii	Unconfined compression test (with strain measurement)			Nos.	90			
Sub-Total					720			
Total (1+2+3+4)					1066			

Note: The borehole should be executed at the given depth or 15 m in the fresh rock whichever is earlier. However, the depth is tentative and is subject to change as per the site conditions.

6. Terms of Reference including Performance Specifications and Drawings: Lot III: Exploratory Core Drilling and Associated Tests at Head Works and HRT Chamkharchhu IV HPP

1. BACKGROUND

The Chamkharchhu HPPs was identified in the Power System Master Plan (PSMP) of 1993, updated in 2001–2003. In 2011, the Department of Hydropower and Power Systems (now DoE) prepared a Reconnaissance Study Report (RSR) of 15 hydropower projects. Building on the RSR findings, the project was subsequently subjected to a detailed assessment through the 2015 Pre-Feasibility Study (PFS) carried out by Lahmeyer International (India) Pvt. Ltd. in 2015, which confirmed its technical feasibility and economic viability.

With the project now progressing toward DPR study of the project, geotechnical investigations in form of exploratory core drilling and associated tests in locations close to intake, surge shaft and powerhouse area of the project are required to be carried out for design and engineering of project components. Therefore, this ToR encompasses scope of work with the technical specification and schedule for carrying out exploratory core drilling for the project.

2. PROJECT LOCATION AND ACCESSIBILITY

The proposed 364 MW Chamkharchhu-IV HPP is located in Bumthang Dzongkhag in central Bhutan. The project is sited on the Chamkharchhu River, the largest tributary of the Mangdechhu, which flows through the western part of the Manas River Basin. The dam site lies near Terzoe (27°28'28.05"N, 90°48'54.04"E), and the powerhouse near Tharpaling/Bim (27°24'54.93"N, 90°52'35.56"E).

The river originates from the glaciers of Gangkar Puensum and the Monla Karchung ranges, with a total length of approximately 81.95 km up to the proposed dam site. The region is characterized by steep mountainous terrain and narrow valleys, making it suitable for hydropower development. The project area is accessible via the national East-West highway, located roughly 289 km from Thimphu in the direction of Trongsa and about 10 km South East of Nangar on Nangar-Ura Bypass.

3. PROJECT GEOLOGY

Geologically, Chamkharchhu basin falls under the high-grade rocks belonging to the Central Crystallines, also known as the Sure Crystalline unit by Gansser (1983), consisting of mainly two mica granite gneisses with frequent occurrence of garnet-kyanite bearing schist intercalations. Pegmatite dykes and pegmatite granites are frequent. The gneiss of this section rests over the low-grade rocks of the Tethyan sediments along a reverse fault (Gansser, 1983 & Bhargava, 1995). The Chamkharchhu IV HPP project layout lies under Upper metasedimentary unit and Chekha Formation by Sean Long et al., 2011.

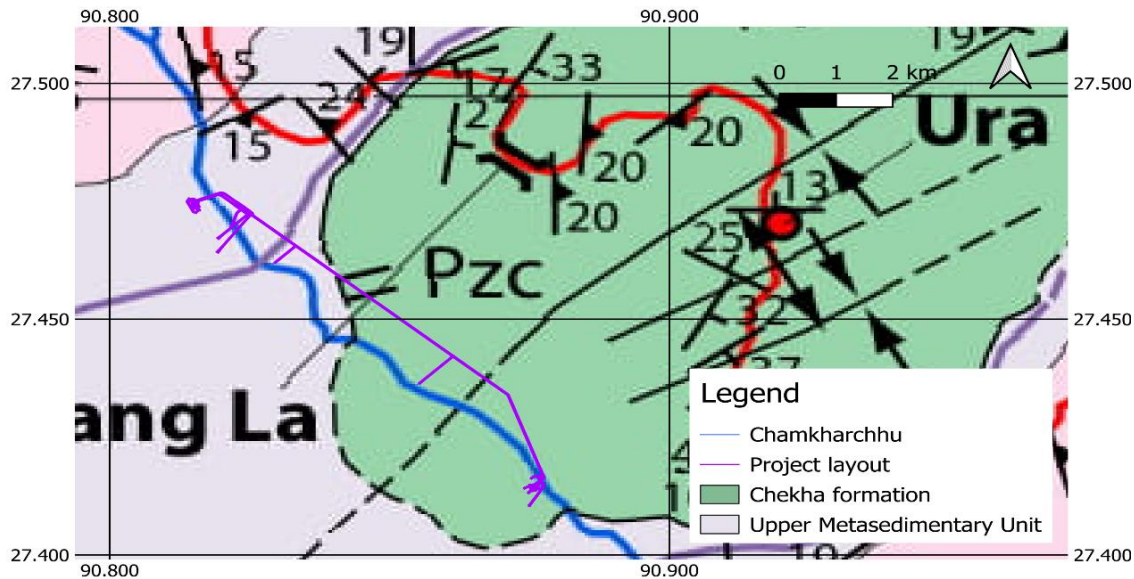


Figure 1: Geological map of Bhutan showing Project layout and Geological formation

4. OBJECTIVE OF INVESTIGATION

Sub-surface exploratory drillings are carried out to study and understand geological and geotechnical features within the project area and their influence on the location of the project components. This will help in locating and orienting the components to evolve safe economic designs for construction of these structures. For this purpose, the investigation shall aim at determining the following, but not limited to:

- Characteristics and types of lithological units present in the area
- Characteristics of significant geological and structural features such as bedding/foliation, joints, fissures, folds, faults, shear zones, dykes, cavities etc. and their influence on structural stability of project components
- Thickness of overburden and weathering limits
- Permeability of overburden and bedrock
- Depth of ground water table
- Index and other geotechnical properties of soil and rock
- Relative density, bearing capacity and settlement of overburden material (granular soil)
- Slope stability

5. SCOPE OF INVESTIGATION

The following scope of work needs to be carried out for the project to achieve the aforementioned objectives:

- Rotary Core Drilling and/or Shell and Auger Drilling in Colluvium, Alluvium, and Rotary Core Drilling in Bedrock
- Field In-situ Test
- Laboratory Test

5.1 Rotary Core Drilling and/or Shell and Auger Drilling Work

While driving through overburden, initially higher size (diameter) such as “H” series casing with required shoe bit shall be used and to obtain the best core recovery, “N” series of casing and rod is used. Skill of drilling crew is also of paramount importance and as per circumstances with respect to depth and formation such as overburden or rock etc. the use of proper (surface set or impregnated) bits, correct speed of rotation, bit pressure, and feed pump pressure and discharge are to be regulated to obtain optimum output.

a. Work Plan & Schedule

- The Contractor shall provide and keep an updated work plan giving details on how the various parts of the work are planned, along with a detailed time schedule before the signing of contract agreement.
- The Bidders are highly encouraged to visit the site for estimating the head load and the general project location during the bidding process at their own expense.
- It is understood that Contractor has already got acquainted with the Project area, the local conditions of the site, the general working conditions, the site access, the temperature and overall climatic conditions prior to the award of the work.

b. Preliminary Site Work

- The Contractor shall be responsible for all the preliminary site works, i.e., making of footpath, rope way, mobilization/demobilization of drilling machines and accessories including, preparation of drilling platform, site accommodation of staff/laborer, temporary waterproof core storage/shed at site, water storage tanks, etc. at their own expenses.
- The Contractor shall carefully review the time required for moving the drill rigs between boreholes, in-situ testing in boreholes, make allowances for equipment maintenance, breakdowns, spare parts and any other factors that could delay progress and agree with the Client for the number and type of rigs to be mobilized to achieve the stipulated time schedule.
- At least two drill rigs must be deployed at the site for expedition of work.

c. Location & Depth of Boreholes

- The location and depth of boreholes are as shown in the following figures. However, these locations are only tentative and may change depending on the site conditions and Client’s requirement.
- The actual location of the boreholes shall be provided by the Client after the award of the contract.

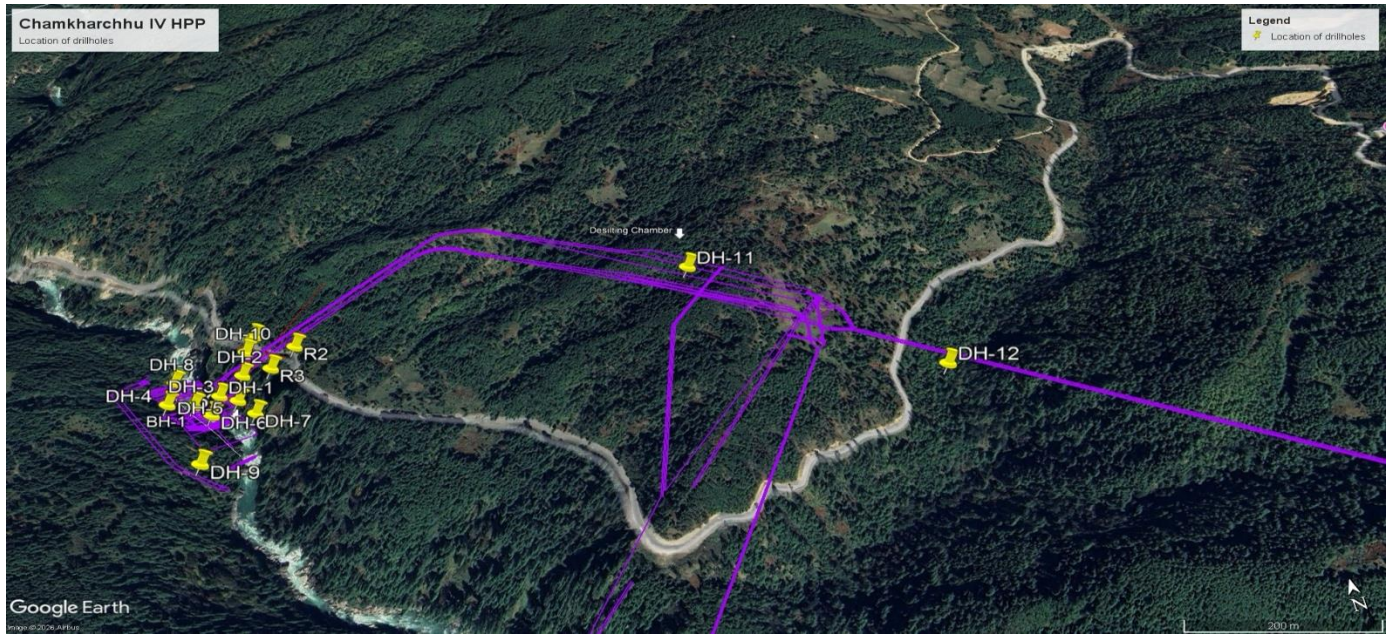


Figure 2: Tentative Location of Drillholes for Lot I Drilling Works

Table 1: Details of the Tentative Drillholes for Lot I Drilling Works

Sl. No.	DH ID	Drill Hole location		Unit	Qty	Depth (m)	Coordinates		Remarks
							Easting	Northing	
i	DH-01	Dam Axis (L/B) - RBL		m	1	60	284139.14	3040906.32	Vertical
ii	DH-02	Dam Axis - (L/B) – Dam Top		m	1	60	284182.50	3040920.55	Vertical
iii	DH-03	Dam Axis (R/B) - RBL		m	1	60	284099.45	3040889.63	Inclined
iv	DH-04	Dam Axis - (R/B) – Dam Top		m	1	60	284064.68	3040874.23	Vertical
v	DH-05	Dam Toe - L/B		m	1	50	284171.67	3040867.79	Vertical
vi	DH-06	Dam Toe - R/B		m	1	50	284129.36	3040844.07	Vertical
vii	DH-07	Plunge Pool		m	1	50	284199.44	3040818.75	Inclined
viii	DH-08	U/s Cofferdam - RB		m	1	40	284065.77	3040969.37	Inclined
ix	DH-09	DT Outlet - R/B		m	1	60	284120.68	3040690.76	Vertical
x	DH-10	Intake		m	1	30	284192.42	3040968.68	Vertical
xi	DH-11	Desilting Chamber	Non-Coring	m	1	100	284915.00	3040792.00	Vertical
			Coring			170			
xii	DH-12	HRT 1		m	1	185	285243.30	3040497.33	Vertical
xiii	R1	Near Highway- U/s dam axis		m	1	50	284214.94	3041000.83	Vertical
xiv	R2	Near Highway- D/s dam axis		m	1	50	284276.00	3040928.00	Vertical

xv	R3	Below Road	m	1	50	284234.00	3040890.00	Vertical
Total				15	1,125			

Since the location, numbers and depth of the drilling may vary as per the site conditions and quality of the core recovery, the payments shall be made as per actual drilled length of the boreholes executed at site and within the Scope of this Contract.

d. Specification for Drilling Work

Standards

- The test procedures shall be carried out in accordance with the specified international standard (e.g., ASTM Standard, British Standard, and International Society of Rock Mechanics (ISRM) Suggested Methods, Indian Standards) unless specified by the Client.
- The proposed alternative standards from Contractor shall be formally submitted to the Client for approval.
- The full testing and reporting procedures (including forms) shall be included in the submission.

Drilling Methodology

- Core drilling should be carried out always using triple tube core barrel recovery technique.
- Rotary core drilling shall be carried out using triple tube core barrel. The drilling in the overburden may be done using H series whereas the drilling in the solid rock may be carried out with N series triple tube barrel of core diameter not less than 54.7 mm.
- Wireline core drilling should be carried out using Q series triple tube.
- Appropriate drilling pressure should be applied as per the ground condition to obtain the core with recovery of not less than 90%.

Core Recovery

- Rotary core drilling shall be carried out using triple tube core barrel. The drilling in the overburden may be done using H series whereas the drilling in the solid rock may be carried out with N series of casing/tube. Appropriate drilling pressure should be applied as per the ground condition to obtain the core with recovery not less than 90%.
- In case of non-achievement of 90% core recovery by rotary core drilling method, the Contractor shall carry out drilling by Shell and Auger method to ensure 90% core recovery.
- Maximum of 1.5 m long core run shall be carried out and if the % of core recovery is less than 90%, core run must be reduced to 1 m.
- In the highly weathered zone and where the core recovery is very low, dry drilling shall be carried out with the core length not exceeding 0.5 m.
- Appropriate methodologies like the use of bentonite, polymer, etc. should be carried out to avoid/reduce hole collapse due to caving.

Core recovery of less than 90% in any drill run will not generally be acceptable for payment unless the Client is satisfied that 90% recovery is impracticable under the prevailing geological conditions.

Water

- In general drilling soil or overburden should not be advanced by adding water except in case of dry granular soil. For conditions where the addition of water is permitted, the Contractor shall use the minimum amount of water necessary for advancing the drilling.
- Where boring reveal soft alluvial soils or where sub-artesian groundwater loosens granular soils, the Contractor may be required to add and maintain head of water during drilling, sampling, and testing in order to avoid disturbances caused by removal of overburden.

- The water used for drilling and testing shall be free from suspended clay and other deleterious materials. If necessary/upon the instruction from the Client, the Contractor shall use settling tanks.

Groundwater Level

- Standing water level measurements shall be made in all boreholes prior to drilling each day as per IS: 6935-1973.
- The first reading in any boreholes shall be taken only after keeping sufficient percolation time or sufficient time for subsidence/drainage if water was used during the drilling procedure.
- The measurements shall be made with electrical dip meters available at all times at each working drilling rig.
- The depth at which sudden flush fluid losses occur shall be accurately recorded. Other conditions such as depth at which groundwater is encountered, fluid gain, artesian flow and perched groundwater tables shall be also reported.

Core Extraction

- The core shall be carefully extracted from the core barrel using a method that does not damage the core. Hammering or banging the core barrel on the ground shall not be permitted.
- The core should be extracted placing the barrel in horizontal position. The core should be placed immediately in the core boxes in the correct sequence.
- Soil, weathered rock, highly fractured rock, and sludge will be extracted and sealed in plastic sleeves or cling wrap to permit handling and preserve moisture.
- The core shall be stored in the core boxes (Mild Steel Box) with a lockable lid (to prevent core disturbance/loss during transportation) and partitions spaced to suit the different core sizes. Handles shall be provided on both long sides to assist transportation of the boxes.
- The inside of the box lid shall be clearly and indelibly marked with the project name, location, co-ordinates, borehole number, box number, and core depth interval.
- Core boxes shall be kept off the ground and dry while at the drilling site.
- The core run shall be marked with proper direction on wooden block which divides the core.
- The core losses shall be marked in the correct position based on the condition of drilling (not at the end of the run) with a block of same length. The block shall be marked “core loss” and the core loss depth interval given.
- Where core samples are taken from the core box, they will be replaced with a wood block of the same length as the sample. The block shall be marked “sample” and the sample depth interval given.
- Photographs of core should be taken right after its retrieval. Before taking a photograph, the core shall be dampened if required to highlight the natural color and fabric of the core. The photographs shall be in sharp focus and of true color.
- Any wrapped core shall be unwrapped for the photo and rewrapped afterwards. Strong shadows on the core shall be avoided (flash shall not be used).
- All block markings shall be legible on the core photographs. The photographs shall be submitted to the Client for approval. Any photos that do not satisfy the above requirements shall be re-photographed until satisfactory or at the instruction of the Client.
- The scale of the photograph should also be maintained throughout the photograph.

Core Boxes & Storage

- Contractor should use mild steel core boxes for the storage of drilled cores where the boxes shall be of robust construction with a lockable lid (to prevent core disturbance/loss during transportation) and partitions spaced to suit the different core sizes.
- Handles shall be provided on both long sides to assist transportation of the boxes. The size of the core boxes shall be as specified in IS: 4078 -1980.

- Both inside and outside of the lid of the box shall be clearly and indelibly marked with the project name, location, borehole number, box number and core depth interval as given in Table 2.
- Core boxes shall be kept off the ground above the High Flood Level for safety and dry while at the drill site.
- Full core boxes shall be stored in a weatherproof temporary core shed at a secure location close to the site and the core shed shall be provided by the Contractor.

Table 2: Labels Necessary on the Core Boxes

Name of the Project	 Hydropower Project
Name of the Contractor	M/s.....
Borehole number	DH.....
Executed depth and angle	m, degree
Co-ordinates of borehole	 E,N
Collar Elevation of borehole	m
Location of borehole	
Core box number and Core run number	

Daily Drill Record (DDR) and Core Logs

- The Contractor shall deploy a Geologist on full time basis for core logging, conducting in-situ tests and to attend to any issues during the execution of the drilling. The Contractor shall prepare core logs and daily drilling report in a proper format as shown in the Table 3 and Table 4.
- The progress of drilling along with core photographs and description of recovery needs to be submitted to the Client daily.
- The DDR should include any information that may be relevant to the interpretation of the geological or ground water conditions and the logging of the core.
- In addition to the groundwater items noted, it should also record such matters as the depths and reasons for core losses, hole instability, cavities, unusually hard or soft layers, change in the color of return water, sudden change in the speed of rotation of drilling and any drilling difficulties associated with the geological conditions.
- The rate of drilling and sudden drop of the core barrel shall be accurately noted and recorded in the log for better understanding of the sub-surface conditions.
- Any water loss and color of return water shall be recorded.
- Ground water table shall be recorded daily before and at closing of drill work.
- The DDR and final log should be at the disposal of the Client on their demand.

Table 3: Daily Drilling Record Format

PROJECT:				CO-ORDINATES:				RIG TYPE:											
LOCATION:				ELEVATION:				PUMP TYPE:											
BORE HOLE NO:				ROD TYPE:															
ANGLE FROM HORIZONTAL:																			
Date	DRILLING DEPTH		PENETRATION RATE		CORE RECOVERY		ROCK QUALITY DESIGNATION			WATER STATUS		SL.NO OF CORE PIECES	Standard Penetration Test (No. of Blows)	Remarks					
	From	To	Drilling Run (m)	Drilling Time (min)	Penetration Rate (cm/ min)	Core Length (m)	Core Recovery (%)	Number of Core Pieces >10cm	Total Core Length	RQD (%)	Colour of Return Water				Water Loss	Water Level (am and pm)	Casing Size	Bit/ Barrel Used	Formation

Table 4: Core Logging Format

DRILL HOLE NO:											
SHEET NO:											
PROJECT:											
LOCATION:				CO-ORDINATES:							
BEARING OF HOLE:				ANGLE WITH HORIZONTAL:				TOTAL DEPTH:			
COLLAR ELEVATION:				GROUND ELEVATION:				TYPE(S) OF CORE BARREL:			
STARTED:				COMPLETED:				DRILLING AGENCY:			
LITHOLOGY		SIZE OF CORE PIECES		STRUCTURAL CONDITION		CORE RECOVERY (%)		RQD%		DRILL WATER LOSS	
Elevation (m)	Description	Depth (m)	Log	Description	Log	20	40	60	100	Test section	PERMEABILITY
										cm/sec or Lugon	Penetration Rate (cm/min)
											Special Observations and Interpretations

Completion of Borehole

- The borehole shall be measured by the Contractor in presence of the Client prior to removal of casings on completion of each borehole
- All completed boreholes shall be capped with concrete monuments cast into the ground with permanent labelling of borehole details (borehole no., depth, angle, elevation, etc.). The boreholes with standpipes shall have a lockable cap to allow access to the standpipe.
- The Client shall identify a long-term storage facility for the cores. The Contractor shall deliver the cores from the temporary store to the long-term storage facility when instructed by the Client. As an alternative for practice of Index and Storing of cores, IS: 4078-1980 may be used
- The Contractor's geologist shall log the core after completion of each borehole and submit the complete log to Client within a week of completion of the borehole.

5.2 Field In-Situ Test

In-situ tests on sub-surface soil and rock shall be performed to determine the permeability, density, plasticity, and water permeability in rock as per the International Standards. These studies shall be carried out both for soil and rock layers present in the sub-surface. The results of these studies shall help understand the features of the soil and rock.

a. Standards

- The tests shall be conducted as a parallel activity along with the drilling works.
- All the accessories and measuring instruments, test and the report format shall be as per the Indian or international standards.

b. Constant Head Test (CHT) in Overburden

- The test shall be carried out in the overburden material for boreholes at the intake (i.e., DH 02, DH 04, DH 10, R 01, R 02, and R 03).
- The method of In-situ CHT should be conducted as per IS: 5529-2013 (Part 1) or any other international standards.
- For boreholes, the frequency of tests shall be performed at every 3 m interval of drilled length.

c. Standard Penetration Test (SPT) in Overburden

- The test shall be carried out in the overburden material for boreholes at the intake (i.e., DH 02, DH 04 and DH 10).
- The method of In-situ SPT should be conducted as per Indian Standard or any other international standards.
- For boreholes, the frequency of tests shall be performed at every 3 m interval of drilled length.

d. Water Pressure Test (WPT) in Bedrock

- The test shall be carried out with a single pneumatic packer wherever possible. The packer shall be such that there is no leakage during the pressure testing.
- The packers shall be liable for Quality Control check by the Client before the commencement of testing.
- The method of In-situ WPT should be conducted as per IS: 5529-2013 (Part 2) or any other international standards.
- For boreholes, the frequency of test shall be performed at every 3 m interval of drilled length.

e. Hydrofracturing Test

- The test shall be carried out in the bedrock for boreholes at desilting chamber i.e., DH-11 to ascertain the in-situ stress condition.
- The method of In-situ Hydro-fracturing test should be conducted as per IS: 13946-2022 (Part 1) or any other international standards.
- The length of the test section shall be chosen based on the drilling condition with a minimum length of five times the diameter of the drill hole.

5.3 Laboratory Testing

- The Contractor shall carry out the laboratory testing from the certified and reputed laboratories approved by clients.
- All the tests shall be performed in accordance with international standards.
- The sample required for the laboratory test shall be selected by the Client.
- Packing of selected samples shall be carried out by Contractor such as to avoid breakage of samples during transportation.
- The laboratory tests to be carried out for rock samples are as listed in Table 5.

Table 5: Laboratory Test for Core Samples

Index rock properties (Natural water content test, Porosity, Unit weight, Density, Specific gravity, Water absorption)	Direct Shear test
Unconfined Compression Test (with strain measurement)	Petrographic Analysis
Unconfined Compression Test (without strain measurement)	Sonic Velocity Test
Brazilian Test	Triaxial Compressive Test with MI value

6. DOCUMENTATION

Upon completion of geological and geotechnical investigation, the data generated from these investigations including the results of laboratory shall be documented. The documentation shall present a comprehensive assessment and description of the geology of the area and existing discontinuity features of the area. It shall be limited, however, to an effective combination of brief discussions, tabulated data, and geological illustrations to depict the conditions that are of engineering significance. The documentation shall focus on the following topics:

- Description of the dominating rock types and their structural features
- Dominant geotechnical features observed in boreholes
- Engineering description of soils and of their relationship to the bedrock.
- Delineation of problematic zones such as shear, faults, folds from the investigation results.
- Possible impact on project components during and after construction due to these geological and geotechnical features.
- Remedies used for the special problems while execution of work.

The subsurface investigations, laboratory tests and geological illustrations in the investigation reports should be sufficiently comprehensive to supply reliable information on all geological conditions that can influence the design, construction and cost of the project. The following data shall be included in the documentation as applicable. Each soft and hard copy of final report shall be submitted to the Client.

- Geological logs of drilling work including results of permeability test
- Laboratory test data and plots.

7. Schedule

- Considering drilling by minimum of two machines, it is planned to complete the drilling work for Lot III by **315 days** including mobilization and site preparation, drilling and final report submission.

Table 8: Tentative Schedule for the Lot I Drilling Works

Particulars	Drilling Depth (m)	Mobilization and Site Preparation (days)	Completion of drilling and testing (days)	Laboratory test and report preparation	Report Submission (days)	Total number of days
Exploratory drilling, In-situ, laboratory test and report submission	1,125	60	210	30	15	315

Note: Contractor to deploy minimum of two drilling rigs at the site

- Based on the tentative scope of work, the firm shall deploy adequate manpower and equipment to complete the work and shall submit the final geotechnical studies report for the project after **15 days** of completion of work including the results of any comments received on the draft report from the hearing process.

7.Activity Schedule: Lot IV: Exploratory Core Drilling and Associated Tests at HRT and Powerhose Chamkharchhu IV HPP

SN	DH ID	Borehole location		Unit	Qty (Nos)	Depth (m)	Total Depth (m)	Remarks
1	Mobilization/Demobilization			LS				
2	Drilling Work							
i	DH-13	HRT- 2		m	1	255	255	Vertical
ii	DH-14	HRT- 3		m	1	75	75	Vertical
iii	DH-15	Surge shaft		m	1	110	110	Vertical
iv	DH-16	Drop shaft		m	1	340	340	Vertical
v	DH-17	Powerhouse	Non-coring	m	1	100	300	Vertical
			Coring			200		
vi	DH-18	Main access tunnel (MAT)		m	1	50	50	Vertical
vii	DH-19	TRT portal		m	1	40	40	Vertical
Sub-Total					7		1,170	
3	In-situ Test							
i	Water Permeability Test			Nos.	312			
ii	Hydrofracture Test			Set	2	HFT for DH-14 and DH-17		
Sub-Total					314			
4	Laboratory Rock Test							
i	Index rock properties, natural water content test, porosity, unit weight, specific gravity, water absorption, density			Nos.	42			2 samples from each litho-unit. The test sample number is subjected to change based on its drilling depth.
ii	Brazilian test			Nos.	42			
iii	Triaxial compressive test with MI value			Nos.	42			
iv	Sonic velocity test			Nos.	42			
v	Petrographic analysis			Nos.	42			
vi	Direct shear test			Nos.	42			
vii	Unconfined compression test (without strain measurement)			Nos.	42			
viii	Unconfined compression test (with strain measurement)			Nos.	42			
Sub-Total					336			
Total (1+2+3+4)					657			

Note: The borehole should be executed at the given depth or 15 m in the fresh rock whichever is earlier. However, the depth is tentative and is subject to change as per the site conditions.

8.Reference including Performance Specifications and Drawings: Lot IV: Exploratory Core Drilling and Associated Tests at HRT and Powerhouse for Chamkharchhu IV HPP

1. BACKGROUND

The Chamkharchhu HPPs was identified in the Power System Master Plan (PSMP) of 1993, updated in 2001–2003. In 2011, the Department of Hydropower and Power Systems (now DoE) prepared a Reconnaissance Study Report (RSR) of 15 hydropower projects. Building on the RSR findings, the project was subsequently subjected to a detailed assessment through the 2015 Pre-Feasibility Study (PFS) carried out by Lahmeyer International (India) Pvt. Ltd. in 2015, which confirmed its technical feasibility and economic viability.

With the project now progressing toward DPR study of the project, geotechnical investigations in form of exploratory core drilling and associated tests in locations close to intake, surge shaft and powerhouse area of the project are required to be carried out for design and engineering of project components. Therefore, this ToR encompasses scope of work with the technical specification and schedule for carrying out exploratory core drilling for the project.

2. PROJECT LOCATION AND ACCESSIBILITY

The proposed 364 MW Chamkharchhu-IV HPP is located in Bumthang Dzongkhag in central Bhutan. The project is sited on the Chamkharchhu River, the largest tributary of the Mangdechhu, which flows through the western part of the Manas River Basin. The dam site lies near Terzoe (27°28'28.05"N, 90°48'54.04"E), and the powerhouse near Tharpaling/Bim (27°24'54.93"N, 90°52'35.56"E).

The river originates from the glaciers of Gangkar Puensum and the Monla Karchung ranges, with a total length of approximately 81.95 km up to the proposed dam site. The region is characterized by steep mountainous terrain and narrow valleys, making it suitable for hydropower development. The project area is accessible via the national East-West highway, located roughly 289 km from Thimphu in the direction of Trongsa and about 10 km South East of Nangar on Nangar-Ura Bypass.

3. PROJECT GEOLOGY

Geologically, Chamkharchhu basin falls under the high-grade rocks belonging to the Central Crystallines, also known as the Sure Crystalline unit by Gansser (1983), consisting of mainly two mica granite gneisses with frequent occurrence of garnet-kyanite bearing schist intercalations. Pegmatite dykes and pegmatite granites are frequent. The gneiss of this section rests over the low-grade rocks of the Tethyan sediments along a reverse fault (Gansser, 1983 & Bhargava, 1995). The Chamkharchhu IV HPP project layout lies under Upper metasedimentary unit and Chekha Formation by Sean Long et al., 2011.

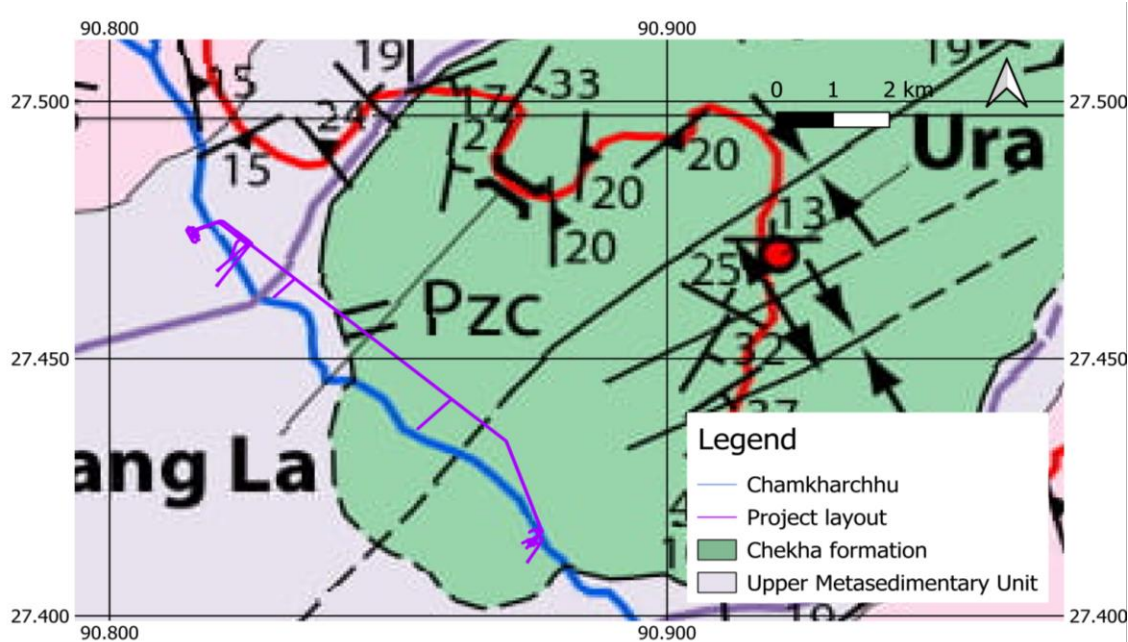


Figure 1: Geological map of Bhutan showing Project layout and Geological formation

4. OBJECTIVE OF INVESTIGATION

Sub-surface exploratory drillings are carried out to study and understand geological and geotechnical features within the project area and their influence on the location of the project components. This will help in locating and orienting the components to evolve safe economic designs for construction of these structures. For this purpose, the investigation shall aim at determining the following, but not limited to:

- Characteristics and types of lithological units present in the area
- Characteristics of significant geological and structural features such as bedding/foliation, joints, fissures, folds, faults, shear zones, dykes, cavities etc. and their influence on structural stability of project components
- Thickness of overburden and weathering limits
- Permeability of overburden and bedrock
- Depth of ground water table
- Index and other geotechnical properties of soil and rock
- Relative density, bearing capacity and settlement of overburden material (granular soil)
- Slope stability

5. SCOPE OF INVESTIGATION

The following scope of work needs to be carried out for the project to achieve the aforementioned objectives:

- Rotary Core Drilling and/or Shell and Auger Drilling in Colluvium, Alluvium, and Rotary Core Drilling in Bedrock
- Field In-situ Test
- Laboratory Test

5.1 Rotary Core Drilling and/or Shell and Auger Drilling Work

While driving through overburden, initially higher size (diameter) such as “H” series casing with required shoe bit shall be used and to obtain the best core recovery, “N” series of casing and rod is used. Skill of drilling crew is also of paramount importance and as per circumstances with respect to depth and formation such as overburden or rock etc. the use of proper (surface set or impregnated) bits, correct speed of rotation, bit pressure, and feed pump pressure and discharge are to be regulated to obtain optimum output.

a. Work Plan & Schedule

- The Contractor shall provide and keep an updated work plan giving details on how the various parts of the work are planned, along with a detailed time schedule before the signing of contract agreement.
- The Bidders are highly encouraged to visit the site for estimating the head load and the general project location during the bidding process at their own expense.
- It is understood that Contractor has already got acquainted with the Project area, the local conditions of the site, the general working conditions, the site access, the temperature and overall climatic conditions prior to the award of the work.

b. Preliminary Site Work

- The Contractor shall be responsible for all the preliminary site works, i.e., making of footpath, rope way, mobilization/demobilization of drilling machines and accessories including, preparation of drilling platform, site accommodation of staff/laborer, temporary waterproof core storage/shed at site, water storage tanks, etc. at their own expenses.
- The Contractor shall carefully review the time required for moving the drill rigs between boreholes, in-situ testing in boreholes, make allowances for equipment maintenance, breakdowns, spare parts and any other factors that could delay progress and agree with the Client for the number and type of rigs to be mobilized to achieve the stipulated time schedule.
- At least two drill rigs must be deployed at the site for expedition of work.

c. Location & Depth of Boreholes

- The location and depth of boreholes are as shown in the following figures. However, these locations are only tentative and may change depending on the site conditions and Client’s requirement.
- The actual location of the boreholes shall be provided by the Client after the award of the contract.

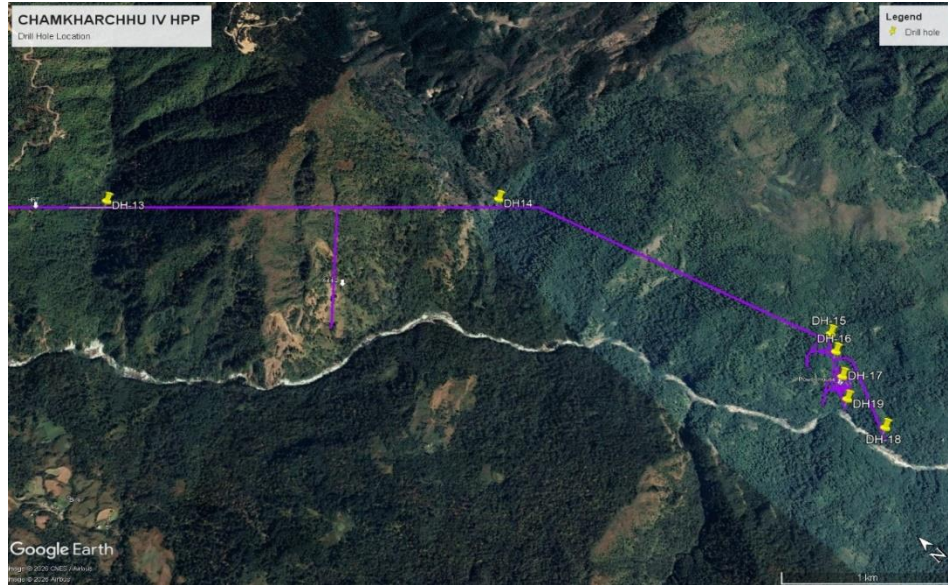


Figure 2: Tentative Location of Drillholes for Lot 1 Drilling Works

Table 1: Details of the Tentative Drillholes for Lot 2 Drilling Works

Sl. No.	DH ID	Drill Hole location	Unit	Qty	Depth (m)	Coordinates		Remarks
						Easting	Northing	
i	DH-13	HRT- 2	m	1	255	287513.28	3038289.89	Vertical
ii	DH-14	HRT- 3	m	1	75	289484.00	3036443.00	Vertical
iii	DH-15	Surge shaft	m	1	110	290173.00	3034354.00	Vertical
iv	DH-16	Drop shaft	m	1	340	290098.73	3034251.28	Vertical
v	DH-17	Powerhouse	m	1	100	289994.00	3034115.00	Vertical
		Non-Coring			200			
vi	DH-18	Main access tunnel (MAT)	m	1	50	289913.00	3033717.00	Vertical
vii	DH-19	TRT portal	m	1	40	289896.62	3033997.88	Vertical
Total				7	1,170			

Since the location, numbers and depth of the drilling may vary as per the site conditions and quality of the core recovery, the payments shall be made as per actual drilled length of the boreholes executed at site and within the Scope of this Contract.

d. Specification for Drilling Work

Standards

- The test procedures shall be carried out in accordance with the specified international standard (e.g., ASTM Standard, British Standard, and International Society of Rock Mechanics (ISRM) Suggested Methods, Indian Standards) unless specified by the Client.
- The proposed alternative standards from Contractor shall be formally submitted to the Client for approval.

- The full testing and reporting procedures (including forms) shall be included in the submission.

Drilling Methodology

- Core drilling should be carried out always using triple tube core barrel recovery technique.
- Rotary core drilling shall be carried out using triple tube core barrel. The drilling in the overburden may be done using H series whereas the drilling in the solid rock may be carried out with N series triple tube barrel of core diameter not less than 54.7 mm.
- Wireline core drilling should be carried out using Q series triple tube.
- Appropriate drilling pressure should be applied as per the ground condition to obtain the core with recovery of not less than 90%.

Core Recovery

- Rotary core drilling shall be carried out using triple tube core barrel. The drilling in the overburden may be done using H series whereas the drilling in the solid rock may be carried out with N series of casing/tube. Appropriate drilling pressure should be applied as per the ground condition to obtain the core with recovery not less than 90%.
- In case of non-achievement of 90% core recovery by rotary core drilling method, the Contractor shall carry out drilling by Shell and Auger method to ensure 90% core recovery.
- Maximum of 1.5 m long core run shall be carried out and if the % of core recovery is less than 90%, core run must be reduced to 1 m.
- In the highly weathered zone and where the core recovery is very low, dry drilling shall be carried out with the core length not exceeding 0.5 m.
- Appropriate methodologies like the use of bentonite, polymer, etc. should be carried out to avoid/reduce hole collapse due to caving.

Core recovery of less than 90% in any drill run will not generally be acceptable for payment unless the Client is satisfied that 90% recovery is impracticable under the prevailing geological conditions.

Water

- In general drilling soil or overburden should not be advanced by adding water except in case of dry granular soil. For conditions where the addition of water is permitted, the Contractor shall use the minimum amount of water necessary for advancing the drilling.
- Where boring reveal soft alluvial soils or where sub-artesian groundwater loosens granular soils, the Contractor may be required to add and maintain head of water during drilling, sampling, and testing in order to avoid disturbances caused by removal of overburden.
- The water used for drilling and testing shall be free from suspended clay and other deleterious materials. If necessary/upon the instruction from the Client, the Contractor shall use settling tanks.

Groundwater Level

- Standing water level measurements shall be made in all boreholes prior to drilling each day as per IS: 6935-1973.
- The first reading in any boreholes shall be taken only after keeping sufficient percolation time or sufficient time for subsidence/drainage if water was used during the drilling procedure.
- The measurements shall be made with electrical dip meters available at all times at each working drilling rig.
- The depth at which sudden flush fluid losses occur shall be accurately recorded. Other conditions such as depth at which groundwater is encountered, fluid gain, artesian flow and perched groundwater tables shall be also reported.

Core Extraction

- The core shall be carefully extracted from the core barrel using a method that does not damage the core. Hammering or banging the core barrel on the ground shall not be permitted.
- The core should be extracted placing the barrel in horizontal position. The core should be placed immediately in the core boxes in the correct sequence.
- Soil, weathered rock, highly fractured rock, and sludge will be extracted and sealed in plastic sleeves or cling wrap to permit handling and preserve moisture.
- The core shall be stored in the core boxes (Mild Steel Box) with a lockable lid (to prevent core disturbance/loss during transportation) and partitions spaced to suit the different core sizes. Handles shall be provided on both long sides to assist transportation of the boxes.
- The inside of the box lid shall be clearly and indelibly marked with the project name, location, co-ordinates, borehole number, box number, and core depth interval.
- Core boxes shall be kept off the ground and dry while at the drilling site.
- The core run shall be marked with proper direction on wooden block which divides the core.
- The core losses shall be marked in the correct position based on the condition of drilling (not at the end of the run) with a block of same length. The block shall be marked “core loss” and the core loss depth interval given.
- Where core samples are taken from the core box, they will be replaced with a wood block of the same length as the sample. The block shall be marked “sample” and the sample depth interval given.
- Photographs of core should be taken right after its retrieval. Before taking a photograph, the core shall be dampened if required to highlight the natural color and fabric of the core. The photographs shall be in sharp focus and of true color.
- Any wrapped core shall be unwrapped for the photo and rewrapped afterwards. Strong shadows on the core shall be avoided (flash shall not be used).
- All block markings shall be legible on the core photographs. The photographs shall be submitted to the Client for approval. Any photos that do not satisfy the above requirements shall be re-photographed until satisfactory or at the instruction of the Client.
- The scale of the photograph should also be maintained throughout the photograph.

Core Boxes & Storage

- Contractor should use mild steel core boxes for the storage of drilled cores where the boxes shall be of robust construction with a lockable lid (to prevent core disturbance/loss during transportation) and partitions spaced to suit the different core sizes.
- Handles shall be provided on both long sides to assist transportation of the boxes. The size of the core boxes shall be as specified in IS: 4078 -1980.
- Both inside and outside of the lid of the box shall be clearly and indelibly marked with the project name, location, borehole number, box number and core depth interval as given in **Table 2**.
- Core boxes shall be kept off the ground above the High Flood Level for safety and dry while at the drill site.
- Full core boxes shall be stored in a weatherproof temporary core shed at a secure location close to the site and the core shed shall be provided by the Contractor.

Table 2: Labels Necessary on the Core Boxes

Name of the Project	 Hydropower Project
Name of the Contractor	M/s.....
Borehole number	DH.....

Executed depth and angle	m, degree
Co-ordinates of borehole	 E,N
Collar Elevation of borehole	m
Location of borehole	
Core box number and Core run number	

Daily Drill Record (DDR) and Core Logs

- The Contractor shall deploy a Geologist on full time basis for core logging, conducting in-situ tests and to attend to any issues during the execution of the drilling. The Contractor shall prepare core logs and daily drilling report in a proper format as shown in the Table 3 and Table 4.
- The progress of drilling along with core photographs and description of recovery needs to be submitted to the Client daily.
- The DDR should include any information that may be relevant to the interpretation of the geological or ground water conditions and the logging of the core.
- In addition to the groundwater items noted, it should also record such matters as the depths and reasons for core losses, hole instability, cavities, unusually hard or soft layers, change in the color of return water, sudden change in the speed of rotation of drilling and any drilling difficulties associated with the geological conditions.
- The rate of drilling and sudden drop of the core barrel shall be accurately noted and recorded in the log for better understanding of the sub-surface conditions.
- Any water loss and color of return water shall be recorded.
- Ground water table shall be recorded daily before and at closing of drill work.
- The DDR and final log should be at the disposal of the Client on their demand.

Table 3: Daily Drilling Record Format

PROJECT:				CO-ORDINATES:						RIG TYPE:									
LOCATION:				ELEVATION:						PUMP TYPE:									
BORE HOLE NO:										ROD TYPE:									
ANGLE FROM HORIZONTAL:																			
Date	DRILLING DEPTH		PENETRATION RATE		CORE RECOVERY		ROCK QUALITY DESIGNATION			WATER STATUS			Casing Size	Bit/Barrel Used	Formation	SL.NO OF CORE PIECES		Standard Penetration Test (No. of Blows)	Remarks
	From	To	Drilling Run (m)	Drilling Time (min) Penetration Rate (cm/min)	Core Length (m)	Core Recovery (%)	Number of Core Pieces >10cm	Total Core Length	RQD (%)	Colour of Return Water	Water Loss	Water Level (am and pm)				From	To		

Table 4: Core Logging Format

DRILL HOLE NO:																											
SHEET NO:																											
PROJECT:																											
LOCATION:						CO-ORDINATES:																					
BEARING OF HOLE:						ANGLE WITH HORIZONTAL:						TOTAL DEPTH:															
COLLAR ELEVATION:						GROUND ELEVATION:						TYPE(S) OF CORE BARREL:															
STARTED:						COMPLETED:						DRILLING AGENCY:															
LITHOLOGY			SIZE OF CORE PIECES				STRUCTURAL CONDITION		CORE RECOVERY (%)						DRILL WATER LOSS		PERMEABILITY										
Elevation(m)	Description	Depth (m)	Log	<10mm	10 to 25 mm	25 to 75mm	75 to 150mm	> 150mm	Description	Log	20	40	60	100	RQD%	Fracture Frequency	Type of Bit	Size of Hole	Casing	Depth of Water level	Nil	Partial	Complete	Test section	cm/sec or Luggeon	Penetration Rate (cm/min)	Special Observations and Interpretations

Completion of Borehole

- The borehole shall be measured by the Contractor in presence of the Client prior to removal of casings on completion of each borehole
- All completed boreholes shall be capped with concrete monuments cast into the ground with permanent labelling of borehole details (borehole no., depth, angle, elevation, etc.). The boreholes with standpipes shall have a lockable cap to allow access to the standpipe.
- The Client shall identify a long-term storage facility for the cores. The Contractor shall deliver the cores from the temporary store to the long-term storage facility when instructed by the Client. As an alternative for practice of Index and Storing of cores, IS: 4078-1980 may be used
- The Contractor's geologist shall log the core after completion of each borehole and submit the complete log to Client within a week of completion of the borehole.

5.2 Field In-Situ Test

In-situ tests on sub-surface soil and rock shall be performed to determine the permeability, density, plasticity, and water permeability in rock as per the International Standards. These studies shall be carried out both for soil and rock layers present in the sub-surface. The results of these studies shall help understand the features of the soil and rock.

a. Standards

- The tests shall be conducted as a parallel activity along with the drilling works.
- All the accessories and measuring instruments, test and the report format shall be as per the Indian or international standards.

b. Water Pressure Test (WPT) in Bedrock

- The test shall be carried out with a single pneumatic packer wherever possible. The packer shall be such that there is no leakage during the pressure testing.
- The packers shall be liable for Quality Control check by the Client before the commencement of testing.
- The method of In-situ WPT should be conducted as per IS: 5529-2013 (Part 2) or any other international standards.
- For boreholes, the frequency of test shall be performed at every 3 m interval of drilled length.

c. Hydrofracturing Test

- The test shall be carried out in the bedrock for boreholes at HRT and drop shaft i.e., DH-14, and DH-17 to ascertain the in-situ stress condition.
- The method of In-situ Hydro-fracturing test should be conducted as per IS: 13946-2022 (Part 1) or any other international standards.

- The length of the test section shall be chosen based on the drilling condition with a minimum length of five times the diameter of the drill hole.

5.3 Laboratory Testing

- The Contractor shall carry out the laboratory testing from the certified and reputed laboratories approved by clients.
- All the tests shall be performed in accordance with international standards.
- The sample required for the laboratory test shall be selected by the Client.
- Packing of selected samples shall be carried out by Contractor such as to avoid breakage of samples during transportation.
- The laboratory tests to be carried out for rock samples are as listed in Table 5.

Table 5: Laboratory Test for Core Samples

Index rock properties (Natural water content test, Porosity, Unit weight, Density, Specific gravity, Water absorption)	Direct Shear test
Unconfined Compression Test (with strain measurement)	Petrographic Analysis
Unconfined Compression Test (without strain measurement)	Sonic Velocity Test
Brazilian Test	Triaxial Compressive Test with MI value

6. DOCUMENTATION

Upon completion of geological and geotechnical investigation, the data generated from these investigations including the results of laboratory shall be documented. The documentation shall present a comprehensive assessment and description of the geology of the area and existing discontinuity features of the area. It shall be limited, however, to an effective combination of brief discussions, tabulated data, and geological illustrations to depict the conditions that are of engineering significance. The documentation shall focus on the following topics:

- Description of the dominating rock types and their structural features
- Dominant geotechnical features observed in boreholes
- Engineering description of soils and of their relationship to the bedrock.
- Delineation of problematic zones such as shear, faults, folds from the investigation results.
- Possible impact on project components during and after construction due to these geological and geotechnical features.
- Remedies used for the special problems while execution of work.

The subsurface investigations, laboratory tests and geological illustrations in the investigation reports should be sufficiently comprehensive to supply reliable information on all geological conditions that can influence the design, construction and cost of the project. The following data shall be included in the documentation as applicable. Each soft and hard copy of final report shall be submitted to the Client.

- Geological logs of drilling work including results of permeability test
- Laboratory test data and plots.

7. SCHEDULE

Considering drilling by minimum of two machines, it is planned to complete the drilling work for **Lot IV** by **300 days** including mobilization and site preparation, drilling and final report submission.

Table 8: Tentative Schedule for the Lot 1 Drilling Works

Particulars	Drilling Depth (m)	Mobilization and Site Preparation (days)	Completion of drilling and testing (days)	Laboratory test and report preparation	Report Submission (days)	Total number of days
Exploratory drilling, In-situ, laboratory test and report submission	1,170	65	190	30	15	300

Note: Contractor to deploy minimum of two drilling rigs at the site

- Based on the tentative scope of work, the firm shall deploy adequate manpower and equipment to complete the work and shall submit the final geotechnical studies report for the project after **15 days** of completion of work including the results of any comments received on the draft report from the hearing process.

Part III – Conditions of Contract and Contract Forms

Section VIII - General Conditions of Contract

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Section VIII - General Conditions of Contract

A. General Provisions

1.1 Definitions

Unless the context otherwise requires, the following terms whenever used in this Contract have the following meanings:

- (a) The Adjudicator is the person appointed jointly by the Employer and the Service Provider to resolve disputes in the first instance, as provided for in Sub-Clause 8.2 hereunder;
- (b) “Priced Activity Schedule” is the priced and completed list of items of Services to be performed by the Service Provider forming part of his Bid;
- (c) “Bank” means the International Bank for Reconstruction and Development, Washington, D.C., U.S.A.;
- (c) “Association” means the International Development Association, Washington, D.C., U.S.A.;
- (d) “Completion Date” means the date of completion of the Services by the Service Provider as certified by the Employer;
- (e) “Contract” means the Contract signed by the Parties, to which these General Conditions of Contract (GCC) are attached, together with all the documents listed in Clause 1 of the Contract Agreement;
- (f) “Contract Price” means the price to be paid for the performance of the Services, in accordance with Clause 6;
- (g) “Dayworks” means varied work inputs subject to payment on a time basis for the Service Provider’s employees and equipment, in addition to payments for associated materials and administration;
- (h) “Employer” means the party who employs the Service Provider;
- (i) “Employer’s Personnel” means all staff, labor and other employees of the Employer engaged in fulfilling the Employer’s obligations under the Contract; and any other personnel identified as Employer’s Personnel, by a notice from the Employer to the Service provider;
- (j) “ES” means Environmental and Social, as applicable, (including Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH));

- (k) “Foreign Currency” means any currency other than the currency of the country of the Employer;
- (l) “GCC” means these General Conditions of Contract;
- (m) “Government” means the Government of the Employer’s Country;
- (n) “Local Currency” means the currency of the country of the Employer;
- (o) “Member,” in case the Service Provider consist of a joint venture of more than one entity, means any of these entities; “Members” means all these entities, and “Member in Charge” means the entity specified in the SC to act on their behalf in exercising all the Service Provider’ rights and obligations towards the Employer under this Contract;
- (p) “Party” means the Employer or the Service Provider, as the case may be, and “Parties” means both of them;
- (q) “Service Provider” is a person or corporate body whose Bid to provide the Services has been accepted by the Employer;
- (r) “Service Provider’s Personnel” means all personnel whom the Service Provider utilizes in the execution of the Services, including the staff, labor and other employees of the Service Provider and each Subcontractor; and any other personnel assisting the Service Provider in the execution of the Services;
- (s) “SCC” means the Special Conditions of Contract by which the GCC may be amended or supplemented;
- (t) “Specifications” means the specifications of the Services included in the Contract, and any additions and modifications to the specifications in accordance with the Contract;
- (u) “Services” means the work to be performed by the Service Provider pursuant to the Contract;
- (v) “Sexual Exploitation and Abuse” “(SEA)” means the following:
Sexual Exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another;

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

- (w) “Sexual Harassment” “(SH)” is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature by the Service Provider’s Personnel with other Service Provider’s Personnel or Employer’s Personnel;
- (x) “Subcontractor” means any entity to which the Service Provider subcontracts any part of the Services in accordance with the provisions of Sub-Clauses 3.5 and 4.

1.2 Applicable Law The Contract shall be interpreted in accordance with the laws of the Employer’s Country, unless otherwise **specified in the Special Conditions of Contract (SCC)**.

1.3 Language This Contract has been executed in the language **specified in the SCC**, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract.

1.4 Notices Any notice, request, or consent made pursuant to this Contract shall be in writing and shall be deemed to have been made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, telex, telegram, or facsimile to such Party at the address **specified in the SCC**.

1.5 Location The Services shall be performed at such locations as are specified in Appendix A, in the Specifications and, where the location of a particular task is not so specified, at such locations, whether in the Government’s country or elsewhere, as the Employer may approve.

1.6 Authorized Representatives Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Employer or the Service Provider may be taken or executed by the officials **specified in the SCC**.

1.7 Inspection and Audit by the Bank Pursuant to paragraph 2.2 e. of Attachment 1 to the General Conditions, the Service Provider shall permit and shall cause its agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit, the Bank and/or persons appointed by the Bank to inspect the site and/or the accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have such accounts, records and other documents audited by auditors appointed by the Bank. The Service Provider's and its Subcontractors' and subconsultants' attention is drawn to Sub-Clause 3.10 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures).

1.8 Taxes and Duties The Service Provider, Subcontractors, and their Personnel shall pay such taxes, duties, fees, and other impositions as may be levied under the Applicable Law, the amount of which is deemed to have been included in the Contract Price.

2. Commencement, Completion, Modification, and Termination of Contract

2.1 Effectiveness of Contract This Contract shall come into effect on the date the Contract is signed by both parties or such other later date as may be **stated in the SCC**.

2.2 Commencement of Services

2.2.1 Program Before commencement of the Services, the Service Provider shall submit to the Employer for approval a Program showing the general methods, arrangements, order and timing for all activities. Such submission to the Employer shall include any applicable environmental and social management plan to manage environmental and social risks and impacts.

The Services shall be carried out in accordance with the approved Program as updated.

2.2.2 Starting Date The Service Provider shall start carrying out the Services thirty (30) days after the date the Contract becomes effective, or at such other date as may be **specified in the SCC**.

2.3 Intended Completion Date Unless terminated earlier pursuant to Sub-Clause 2.6, the Service Provider shall complete the activities by the Intended Completion Date, as is **specified in the SCC**. If the Service Provider does not

complete the activities by the Intended Completion Date, it shall be liable to pay liquidated damage as per Sub-Clause 3.8. In this case, the Completion Date will be the date of completion of all activities.

2.4 Modification

Modification of the terms and conditions of this Contract, including any modification of the scope of the Services or of the Contract Price, may only be made by written agreement between the Parties and shall not be effective until the consent of the Bank or of the Association, as the case may be, has been obtained.

2.4.1 Value Engineering

The Service Provider may prepare, at its own cost, a value engineering proposal at any time during the performance of the contract. The value engineering proposal shall, at a minimum, include the following;

- (a) the proposed change(s), and a description of the difference to the existing contract requirements;
- (b) a full cost/benefit analysis of the proposed change(s) including a description and estimate of costs (including life cycle costs, if applicable) the Employer may incur in implementing the value engineering proposal; and
- (c) a description of any effect(s) of the change on performance/functionality.

The Employer may accept the value engineering proposal if the proposal demonstrates benefits that:

- (a) accelerates the delivery period; or
- (b) reduces the Contract Price or the life cycle costs to the Employer; or
- (c) improves the quality, efficiency, safety or sustainability of the services; or
- (d) yields any other benefits to the Employer,

without compromising the necessary functions of the Services.

If the value engineering proposal is approved by the Employer and results in:

- (a) a reduction of the Contract Price; the amount to be paid to the Service Provider shall be the percentage specified in the SCC of the reduction in the Contract Price; or
- (b) an increase in the Contract Price; but results in a reduction in life cycle costs due to any benefit described in (a) to (d) above, the amount to be paid to the Service Provider shall be the full increase in the Contract Price.

2.5 Force Majeure

2.5.1 Definition For the purposes of this Contract, “Force Majeure” means an event which is beyond the reasonable control of a Party and which makes a Party’s performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances.

2.5.2 No Breach of Contract The failure of a Party to fulfill any of its obligations under the contract shall not be considered to be a breach of, or default under, this Contract insofar as such inability arises from an event of Force Majeure, provided that the Party affected by such an event (a) has taken all reasonable precautions, due care and reasonable alternative measures in order to carry out the terms and conditions of this Contract, and (b) has informed the other Party as soon as possible about the occurrence of such an event.

2.5.3 Extension of Time Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.

2.5.4 Payments During the period of their inability to perform the Services as a result of an event of Force Majeure, the Service Provider shall be entitled to continue to be paid under the terms of this Contract, as well as to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Service after the end of such period.

2.6 Termination

2.6.1 By the Employer

The Employer may terminate this Contract, by not less than thirty (30) days' written notice of termination to the Service Provider, to be given after the occurrence of any of the events specified in paragraphs (a) through (d) of this Sub-Clause 2.6.1:

- (a) if the Service Provider does not remedy a failure in the performance of its obligations under the Contract, within thirty (30) days after being notified or within any further period as the Employer may have subsequently approved in writing;
- (b) if the Service Provider become insolvent or bankrupt;
- (c) if, as the result of Force Majeure, the Service Provider is unable to perform a material portion of the Services for a period of not less than sixty (60) days; or
- (d) if the Service Provider, in the judgment of the Employer has engaged in Fraud and Corruption, as defined in paragraph 2.2 a. of Attachment 1 to the GCC, in competing for or in executing the Contract

2.6.2 By the Service Provider

The Service Provider may terminate this Contract, by not less than thirty (30) days' written notice to the Employer, such notice to be given after the occurrence of any of the events specified in paragraphs (a) and (b) of this Sub-Clause 2.6.2:

- (a) if the Employer fails to pay any monies due to the Service Provider pursuant to this Contract and not subject to dispute pursuant to Clause 7 within forty-five (45) days after receiving written notice from the Service Provider that such payment is overdue; or
- (b) if, as the result of Force Majeure, the Service Provider is unable to perform a material portion of the Services for a period of not less than sixty (60) days.

2.6.3 Suspension of Loan or Credit

In the event that the World Bank suspends the loan or Credit to the Employer, from which part of the payments to the Service Provider are being made:

- (a) The Employer is obligated to notify the Service Provider of such suspension within 7 days of having received the World Bank's suspension notice.
- (b) If the Service Provider has not received sums due to by the due date stated in the SCC in accordance with Sub-Clause 6.5 the

Service Provider may immediately issue a 14 day termination notice.

**2.6.4 Payment
upon
Termination**

Upon termination of this Contract pursuant to Sub-Clauses 2.6.1 or 2.6.2, the Employer shall make the following payments to the Service Provider:

- (a) remuneration pursuant to Clause 6 for Services satisfactorily performed prior to the effective date of termination;
- (b) except in the case of termination pursuant to paragraphs (a), (b), (d) of Sub-Clause 2.6.1, reimbursement of any reasonable cost incident to the prompt and orderly termination of the Contract, including the cost of the return travel of the Service Provider's Personnel.

3. Obligations of the Service Provider

3.1 General

The Service Provider shall perform the Services in accordance with the Specifications and the Priced Activity Schedule, and carry out its obligations with all due diligence, efficiency, and economy, in accordance with generally accepted professional techniques and practices, and shall observe sound management practices, and employ appropriate advanced technology and safe methods.

The Service Provider shall at all times take all reasonable precautions to maintain the health and safety of the Service Provider's Personnel employed for the execution of Services at the locations in the Employer's country where the Services are executed.

If **required in the SCC**, the Service Provider shall submit to the Employer for its approval a health and safety manual which has been specifically prepared for the Contract.

The health and safety manual shall be in addition to any other similar document required under applicable health and safety regulations and laws.

The health and safety manual shall set out any applicable health and safety requirement under the Contract,

- (a) which may include:
 - (i) the procedures to establish and maintain a safe working environment;
 - (ii) the procedures for prevention, preparedness and response activities to be implemented in the case

of an emergency event (i.e. an unanticipated incident, arising from natural or man-made hazards);

(iii) the measures to be taken to avoid or minimize the potential for community exposure to water-borne, water-based, water-related, and vector-borne diseases,

(iv) the measures to be implemented to avoid or minimize the spread of communicable diseases; and

(b) any other requirements stated in the Employer's Requirements.

The Service Provider shall always act, in respect of any matter relating to this Contract or to the Services, as faithful adviser to the Employer, and shall at all times support and safeguard the Employer's legitimate interests in any dealings with Subcontractors or third parties.

The Service Provider shall require that its Subcontractors execute the Services in accordance with the Contract, including complying with applicable ES requirements and the obligations set out in GCC Sub-Clause 3.12.

3.2 Conflict of Interests

3.2.1 Service Provider Not to Benefit from Commissions and Discounts.

The remuneration of the Service Provider pursuant to Clause 6 shall constitute the Service Provider's sole remuneration in connection with this Contract or the Services, and the Service Provider shall not accept for their own benefit any trade commission, discount, or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations under the Contract, and the Service Provider shall use their best efforts to ensure that the Service Provider's Personnel, any Subcontractors, and agents of either of them similarly shall not receive any such additional remuneration.

3.2.2 Service Provider and Affiliates Not to be Otherwise Interested in Project

The Service Provider agree that, during the term of this Contract and after its termination, the Service Provider and its affiliates, as well as any Subcontractor and any of its affiliates, shall be disqualified from providing goods, works, or Services (other than the Services and any continuation thereof) for any project resulting from or closely related to the Services.

- 3.2.3 Prohibition of Conflicting Activities** Neither the Service Provider nor its Subcontractors nor the Personnel shall engage, either directly or indirectly, in any business or professional activity that would conflict with the activities assigned to them under this Contract. The Service provider has an obligation and shall ensure that its Service Provider's Personnel and Sub-consultants shall have an obligation to disclose any situation of actual or potential conflict that impacts their capacity to serve the best interest of the Employer, or that may reasonably be perceived as having this effect. Failure to disclose said situations may lead to the disqualification of the Consultant or the termination of its Contract.
- 3.3 Confidentiality** The Service Provider, its Subcontractors, and the Personnel of either of them shall not, either during the term or within two (2) years after the expiration of this Contract, disclose any proprietary or confidential information relating to the Project, the Services, this Contract, or the Employer's business or operations without the prior written consent of the Employer.
- 3.4 Insurance to be Taken Out by the Service Provider** The Service Provider (a) shall take out and maintain, and shall cause any Subcontractors to take out and maintain, at its (or the Subcontractors', as the case may be) own cost but on terms and conditions approved by the Employer, insurance against the risks, and for the coverage, as shall be **specified in the SCC**; and (b) at the Employer's request, shall provide evidence to the Employer showing that such insurance has been taken out and maintained and that the current premiums have been paid.
- 3.5 Service Provider's Actions Requiring Employer's Prior Approval** The Service Provider shall obtain the Employer's prior approval in writing before taking any of the following actions:
- (a) entering into a subcontract for the performance of any part of the Services,
 - (b) appointing such members of the Personnel not listed by name in Appendix C ("Key Personnel and Subcontractors"),
 - (c) changing the Program of activities; and
 - (d) any other action that may be **specified in the SCC**.
- Submission by the Contractor for the Employer's approval, for addition of any Subcontractor not named in the Contract, shall also include the Subcontractor's declaration in accordance with Appendix I- Sexual exploitation and Abuse (SEA) and/or Sexual Harassment (SH) Performance Declaration.

3.6 Reporting Obligations

The Service Provider shall submit to the Employer the reports and documents specified in Appendix B in the form, in the numbers, and within the periods set forth in the said Appendix.

If specified in Appendix B, the reporting requirements shall include applicable environmental and social aspects.

If stated in the SCC, the reports shall include status of compliance to cyber security risks management, and any foreseeable cyber security risk and mitigation

The Service Provider shall inform the Employer immediately of any allegation, incident or accident in the locations in the Employer's country where the Services are executed, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel or Service Provider's Personnel. This includes, but is not limited to, any incident or accident causing fatality or serious injury; significant adverse effects or damage to private property; any cyber security incidents **as specified in the SCC**; or any allegation of SEA and/or SH. In case of SEA and/or SH, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, sexual abuse or sexual harassment), gender and age of the person who experienced the alleged incident should be included in the information.

The Service Provider, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Employer of any such incident or accident on the Subcontractors' or suppliers' premises relating to the Services which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel or Service Provider's, its Subcontractors' and suppliers' Personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Service provider shall provide full details of such incidents or accidents to the Employer within the timeframe agreed with the Employer.

The Service Provider shall require its Subcontractors and suppliers to immediately notify the Service Provider of any incidents or accidents referred to in this Sub- Clause.

3.7 Documents Prepared by the Service Provider to Be the Property of the Employer

All plans, drawings, specifications, designs, reports, and other documents and software submitted by the Service Provider in accordance with Sub-Clause 3.6 shall become and remain the property of the Employer, and the Service Provider shall, not later than upon termination or expiration of this Contract, deliver all such documents and software to the Employer, together with a detailed inventory thereof. The Service Provider may retain a

copy of such documents and software. Restrictions about the future use of these documents, if any, shall be **specified in the SCC**.

3.8 Liquidated Damages

3.8.1 Payments of Liquidated Damages

The Service Provider shall pay liquidated damages to the Employer at the rate per day **stated in the SCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount **defined in the SCC**. The Employer may deduct liquidated damages from payments due to the Service Provider. Payment of liquidated damages shall not affect the Service Provider's liabilities.

3.8.2 Correction for Over-payment

If the Intended Completion Date is extended after liquidated damages have been paid, the Employer shall correct any overpayment of liquidated damages by the Service Provider by adjusting the next payment certificate. The Service Provider shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in Sub-Clause 6.5.

3.8.3 Lack of performance penalty

If the Service Provider has not corrected a Defect within the time specified in the Employer's notice, a penalty for Lack of performance will be paid by the Service Provider. The amount to be paid will be calculated as a percentage of the cost of having the Defect corrected, assessed as described in Sub-Clause 7.2 and **specified in the SCC**.

3.9 Performance Security

If required as **specified in the SCC**, the Service Provider shall provide to the Employer a Performance Security for the performance of the Contract, in the amount **specified in the SCC** and no later than the date specified in the Letter of acceptance.

As **specified in the SCC**, the Performance Security, if required, shall be denominated in the currency(ies) of the Contract, or in a freely convertible currency acceptable to the Employer; and shall be in one of the format stipulated by the Employer in the **SCC**, or in another format acceptable to the Employer.

The performance Security shall be valid until a date 28 days from the Completion Date of the Contract in case of a bank guarantee, and until one year from the Completion Date of the Contract in the case of a Performance Bond.

3.10 Fraud and Corruption

The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in the Attachment 1 to the GCC.

The Employer requires the Service Provider to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

3.11 Sustainable Procurement

The Service Provider shall conform to the sustainable procurement contractual provisions, if and as specified in the SCC.

3.12 Code of Conduct

The Service Provider shall have a Code of Conduct for the Service Provider's Personnel employed for the execution of the Services at the locations in the Employer's country where the Services are provided.

The Service Provider shall take all necessary measures to ensure that each Service Provider's Personnel is made aware of the Code of Conduct including specific behaviors that are prohibited, and understands the consequences of engaging in such prohibited behaviors.

These measures include providing instructions and documentation that can be understood by the Service Provider's Personnel and seeking to obtain that person's signature acknowledging receipt of such instructions and/or documentation, as appropriate.

The Service Provider shall also ensure, as applicable, that the Code of Conduct is visibly displayed in locations in the Employer's country where the Services are executed as well as in areas outside the locations accessible to the local community and any project affected people. The posted Code of Conduct shall be provided in languages comprehensible to Service Provider's Personnel, Employer's Personnel and the local community.

The Service Provider's Management Strategy and Implementation Plans, as applicable, shall include appropriate processes for the Service Provider to verify compliance with these obligations.

3.13 Training of Service Provider's Personnel

The Service Provider shall provide appropriate training to its relevant personnel on any applicable ES aspects of the Contract, including appropriate sensitization on prohibition of SEA/SH.

As stated in the Employer's Requirements or as instructed by the Employer, the Service Provider shall also allow appropriate opportunities for the relevant Service Provider's Personnel to be trained on applicable ES aspects of the Contract by the Employer's Personnel and/or other personnel assigned by the Employer.

The Service Provider shall provide training on SEA and SH, including its prevention, to any of its personnel who has a role to supervise other Service Provider's Personnel.

3.14 Security of the Site

Unless stated otherwise in the SCC, the Service Provider shall be responsible for the security at the locations in the Employer's country where the services are carried out including providing and maintaining at its own expense all lighting, fencing, and watching when and where necessary for the proper execution and the protection of the locations, or for the safety of the owners and occupiers of adjacent property and for the safety of the public.

If required in the SCC, prior to the Starting Date for the commencement of Services, the Service Provider shall submit for the Employer's No-objection a security management plan that sets the security arrangements for the locations in the Employer's country where the Services are executed.

In making security arrangements, the Service Provider shall be guided by applicable laws and any other requirements that may be stated in the Employer's Requirements.

The Service Provider shall (i) conduct appropriate background checks on any personnel retained to provide security; (ii) train the security personnel adequately (or determine that they are properly trained) in the use of force (and where applicable, firearms), and appropriate conduct towards the Service Provider's personnel, Employer's personnel and affected communities; and (iii) require the security personnel to act within the applicable Laws and any requirements set out in the Employer's Requirements.

The Service Provider shall not permit any use of force by security personnel in providing security except when used for preventive and defensive purposes in proportion to the nature and extent of the threat.

3.15 Protection of the Environment

As applicable, the Service Provider shall take all necessary measures to:

- i. protect the environment (both on and off the locations where the Services are executed) from damages resulting from its operations/and or activities; and
- ii. limit damage and nuisance to people and property resulting from pollution, noise and other results of the Service Provider's operations and/ or activities.

The Service Provider shall ensure that any emissions, surface discharges, effluent and any other pollutants from the its activities shall exceed neither the values that may be indicated in the Employer's Requirements, nor those prescribed by applicable laws.

In the event of damage to the environment, property and/or nuisance to people, on or off the locations where the Services are carried out, as a result of the Service Provider's operations and/or activities, the Service Provider shall agree with the Employer the appropriate actions and time scale to remedy, as practicable, the damaged environment to its former condition. The Service Provider shall implement such remedies at its cost to the satisfaction of the Employer.

3.16 Cyber Security

Pursuant to the SCC, the Service Provider, including its Subcontractors/suppliers shall take all technical and organizational measures necessary to protect the information technology systems and data used in connection with the Contract. Without limiting the foregoing, the Service Provider, including its Subcontractors/ suppliers, shall use all reasonable efforts to establish, maintain, implement and comply with, reasonable information technology, information security, cyber security and data protection controls, policies and procedures, including oversight, access controls, encryption, technological and physical safeguards and business continuity/disaster recovery and security plans that are designed to protect against and prevent breach, destruction, loss, unauthorized distribution, use, access, disablement, misappropriation or modification, or other compromise or misuse of or relating to any information technology system or data used in connection with the Contract.

3.17 Cultural Heritage Findings

All fossils, coins, articles of value or antiquity, structures, groups of structures, and other remains or items of geological, archaeological, paleontological, historical, architectural, religious interest found on the locations in the Employer's

country where the Services are carried out shall be placed under the care and custody of the Employer.

As soon as practicable after discovery of any such finding, the Service Provider shall give a notice to the Employer, to give the Employer the opportunity to promptly inspect and/or investigate the finding before it is disturbed and to issue instructions for dealing with it.

4. Service Provider's Personnel

4.1 Description of Personnel

The titles, agreed job descriptions, minimum qualifications, and estimated periods of engagement in the carrying out of the Services of the Service Provider's Key Personnel are described in Appendix C. The Key Personnel and Subcontractors listed by title as well as by name in Appendix C are hereby approved by the Employer.

4.2 Removal and/or Replacement of Personnel

- (a) Except as the Employer may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the Service Provider, it becomes necessary to replace any of the Key Personnel, the Service Provider shall provide as a replacement a person of equivalent or better qualifications.
- (b) The Employer may require the Service Provider to remove (or cause to be removed) a Service Provider's Personnel, who:
 - (i) persists in any misconduct or lack of care;
 - (ii) carries out duties incompetently or negligently;
 - (iii) fails to comply with any provision of the Contract;
 - (iv) persists in any conduct which is prejudicial to safety, health, or the protection of the environment;
 - (v) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Contract;
 - (vi) has been recruited from the Employer's Personnel;
 - (vii) undertakes behavior which breaches the Code of Conduct (ES), as applicable.

As appropriate, the Service provider shall then promptly appoint (or cause to be appointed) a suitable replacement with equivalent skills and experience.

Notwithstanding any requirement from the Employer to remove or cause to remove any person, the Service provider shall take immediate action as appropriate in response to any violation of (i) through (vii) above. Such immediate action shall include removing (or causing to be removed) from the locations where the Services are carried out, any Service Provider's Personnel who engages in (i), (ii), (iii), (iv), (v) or (vii) above or has been recruited as stated in (vi) above.

- (c) The Service Provider shall have no claim for additional costs arising out of or incidental to any removal and/or replacement of Personnel.

4.3 Service Provider's Personnel

Engagement of Service Provider's Personnel

The Service Provider shall make arrangements for the engagement of the Service Provider's Personnel.

The Service Provider is encouraged, to the extent practicable and reasonable, to use local labor that has the necessary skills.

Subject to GCC 5.1, the Service Provider shall be responsible for obtaining all necessary permit(s) and/or visa(s) from the appropriate authorities for the entry of all personnel to be employed for the Services into the Employer's country.

The Service Provider shall at its own expense provide the means of repatriation to all of its personnel employed for the execution of the Services 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.

Persons in the Service of Employer

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

Labor Laws

The Service provider shall comply with all the relevant labor laws applicable to the Service Provider's Personnel, including laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.

The Service Provider 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.

The Service Provider shall, in all dealings with its personnel 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.

Rates of Wages and Conditions of Labor

The Service Provider shall pay rates of wages, and observe conditions of labor, which are not lower than those established for the trade or industry where the Service is carried out. If no established rates or conditions are applicable, the Service Provider 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 Service Provider.

The Service Provider shall inform the Service Provider's Personnel about their liability to pay personal income taxes in the Employer's country in respect of such of their salaries, wages, allowances and any benefits as are subject to tax under the laws of the country for the time being in force, and the Service provider shall perform such duties in regard to such deductions thereof as may be imposed on him by such laws.

Facilities for Service Provider's Personnel

If **stated in the SCC and subject to GCC Sub-Clause 5.3**, the Service Provider shall provide and maintain all necessary accommodation and welfare facilities for the Service Provider's Personnel employed for the execution of the Contract at the locations in the Employer's country where the Services are provided.

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

Workers' Organizations

In countries where the relevant labor laws recognize workers' rights to form and to join workers' organizations of their choosing and to bargain collectively without interference, the Service Provider shall comply with such laws. In such circumstances, the role of legally established workers' organizations and legitimate workers' representatives will be respected, and they will be provided with information needed for meaningful negotiation in a timely manner. Where the relevant labor laws substantially restrict workers' organizations, the Service Provider shall enable alternative means for the service provider's Personnel to express their grievances and

protect their rights regarding working conditions and terms of employment. The Service Provider shall not seek to influence or control these alternative means. The Service Provider shall not discriminate or retaliate against the Service Provider's Personnel who participate, or seek to participate, in such organizations and collective bargaining or alternative mechanisms. Workers' organizations are expected to fairly represent the workers in the workforce.

Non-Discrimination and Equal Opportunity

The Service Provider shall not make decisions relating to the employment or treatment of Service Provider's Personnel on the basis of personal characteristics unrelated to inherent job requirements. The Service Provider shall base the employment of Service Provider's Personnel on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to any aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices.

Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job shall not be deemed discrimination. The Service Provider shall provide protection and assistance as necessary to ensure non-discrimination and equal opportunity, including for specific groups such as women, people with disabilities, migrant workers and children (of working age in accordance with this Sub-Clause).

Forced Labor

The Service Provider, including its Subcontractors, shall not employ or engage forced labor. Forced labor consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labor, such as indentured labor, bonded labor or similar labor-contracting arrangements.

No persons shall be employed or engaged who have been subject to trafficking. Trafficking in persons is defined as the recruitment, transportation, transfer, harbouring or receipt of persons by means of the threat or use of force or other forms of coercion, abduction, fraud, deception, abuse of power, or of a position of vulnerability, or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purposes of exploitation.

Child Labor

The Service Provider, including its Subcontractors, shall not employ or engage a child under the age of 14 unless the national law specifies a higher age (the minimum age).

The Service Provider, including its Subcontractors, shall not employ or engage a child between the minimum age and the age of 18 in a manner that is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.

The Service Provider including its Subcontractors, shall only employ or engage children between the minimum age and the age of 18 after an appropriate risk assessment has been conducted by the Service Provider with the Employer's consent. The Service Provider shall be subject to regular monitoring by the Employer that includes monitoring of health, working conditions and hours of work.

Work considered hazardous for children is work that, by its nature or the circumstances in which it is carried out, is likely to jeopardize the health, safety, or morals of children. Such work activities prohibited for children include work:

- (a) with exposure to physical, psychological or sexual abuse;
- (b) underground, underwater, working at heights or in confined spaces;
- (c) with dangerous machinery, equipment or tools, or involving handling or transport of heavy loads;
- (d) in unhealthy environments exposing children to hazardous substances, agents, or processes, or to temperatures, noise or vibration damaging to health; or
- (e) under difficult conditions such as work for long hours, during the night or in confinement on the premises of the employer.

5. Obligations of the Employer

5.1 Assistance and Exemptions

The Employer shall use its best efforts to ensure that the Government shall provide the Service Provider such assistance and exemptions as **specified in the SCC.**

5.2 Change in the Applicable Law

If, after the date of this Contract, there is any change in the Applicable Law with respect to taxes and duties which increases or decreases the cost of the Services rendered by the Service Provider, then the remuneration and reimbursable expenses otherwise payable to the

Service Provider under this Contract shall be increased or decreased accordingly by agreement between the Parties, and corresponding adjustments shall be made to the amounts referred to in Sub-Clauses 6.2 (a) or (b), as the case may be.

5.3 Services and Facilities

The Employer shall make available to the Service Provider the Services and Facilities listed under Appendix F.

6. Payments to the Service Provider

6.1 Lump-Sum Remuneration

The Service Provider's remuneration shall not exceed the Contract Price and shall be a fixed lump-sum including all Subcontractors' costs, and all other costs incurred by the Service Provider in carrying out the Services described in Appendix A. Except as provided in Sub-Clause 5.2, the Contract Price may only be increased above the amounts stated in Sub-Clause 6.2 if the Parties have agreed to additional payments in accordance with Sub-Clauses 2.4 and 6.3.

6.2 Contract Price

- (a) The price payable in local currency is **set forth in the SCC.**
- (b) The price payable in foreign currency is **set forth in the SCC.**

6.3 Payment for Additional Services, and Performance Incentive Compensation

- 5.3.1 For the purpose of determining the remuneration due for additional Services as may be agreed under Sub-Clause 2.4, a breakdown of the lump-sum price is provided in Appendices D and E.
- 5.3.2 **If the SCC so specify,** the service provider shall be paid performance incentive compensation as set out in the Performance Incentive Compensation appendix.

6.4 Terms and Conditions of Payment

Payments will be made to the Service Provider according to the payment schedule **stated in the SCC. Unless otherwise stated in the SCC,** the advance payment (Advance for Mobilization, Materials and Supplies) shall be made against the provision by the Service Provider of a bank guarantee for the same amount, and shall be valid for the period **stated in the SCC.** Any other payment shall be made after the conditions **listed in the SCC** for such payment have been met, and the Service Provider have submitted an invoice to the Employer specifying the amount due.

6.5 Interest on Delayed Payments

If the Employer has delayed payments beyond fifteen (15) days after the due date stated in the SCC, interest shall be paid to the Service Provider for each day of delay at the rate stated in the SCC.

6.6 Price Adjustment

- 6.6.1 Prices shall be adjusted for fluctuations in the cost of inputs only **if provided for in the SCC.** If so provided, the amounts certified

in each payment certificate, after deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due in each currency. A separate formula of the type indicated below applies to each Contract currency:

$$P_c = A_c + B_c \frac{L_{mc}}{L_{oc}} + C_c \frac{I_{mc}}{I_{oc}}$$

Where:

P_c is the adjustment factor for the portion of the Contract Price payable in a specific currency “c”.

A_c , B_c and C_c are coefficients specified in the SCC, representing: A_c the nonadjustable portion; B_c the adjustable portion relative to labor costs and C_c the adjustable portion for other inputs, of the Contract Price payable in that specific currency “c”; and

L_{mc} is the index prevailing at the first day of the month of the corresponding invoice date and L_{oc} is the index prevailing 28 days before Bid opening for labor; both in the specific currency “c”.

I_{mc} is the index prevailing at the first day of the month of the corresponding invoice date and I_{oc} is the index prevailing 28 days before Bid opening for other inputs payable; both in the specific currency “c”.

If a price adjustment factor is applied to payments made in a currency other than the currency of the source of the index for a particular indexed input, a correction factor Z_o/Z_n will be applied to the respective component factor of p_n for the formula of the relevant currency. Z_o is the number of units of currency of the country of the index, equivalent to one unit of the currency payment on the date of the base index, and Z_n is the corresponding number of such currency units on the date of the current index.

6.6.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.

6.7 Dayworks

6.7.1 If applicable, the Daywork rates in the Service Provider’s Bid shall be used for small additional amounts of Services only when the Employer has given written instructions in advance for additional services to be paid in that way.

6.7.2 All work to be paid for as Dayworks shall be recorded by the Service Provider on forms approved by the Employer. Each completed form shall be verified and signed by the Employer representative as indicated in Sub-Clause 1.6 within two days of the Services being performed.

6.7.3 The Service Provider shall be paid for Dayworks subject to obtaining signed Dayworks forms as indicated in Sub-Clause 6.7.2

7. Quality Control

7.1 Identifying Defects

The principle and modalities of Inspection of the Services by the Employer shall be as **indicated in the SCC**. The Employer shall check the Service Provider's performance and notify him of any Defects that are found. Such checking shall not affect the Service Provider's responsibilities. The Employer may instruct the Service Provider to search for a Defect and to uncover and test any service that the Employer considers may have a Defect. Defect Liability Period is as **defined in the SCC**.

7.2 Correction of Defects, and Lack of Performance Penalty

- (a) The Employer shall give notice to the Service Provider of any Defects before the end of the Contract. The Defects liability period shall be extended for as long as Defects remain to be corrected.
- (b) Every time notice a Defect is given, the Service Provider shall correct the notified Defect within the length of time specified by the Employer's notice.
- (c) If the Service Provider has not corrected a Defect within the time specified in the Employer's notice, the Employer will assess the cost of having the Defect corrected, the Service Provider will pay this amount, and a Penalty for Lack of Performance calculated as described in Sub-Clause 3.8.

8. Settlement of Disputes

8.1 Amicable Settlement

The Parties shall use their best efforts to settle amicably all disputes arising out of or in connection with this Contract or its interpretation.

8.2 Dispute Settlement

8.2.1 If any dispute arises between the Employer and the Service Provider in connection with, or arising out of, the Contract or the provision of the Services, whether during carrying out the Services or after their completion, the matter shall be referred to the Adjudicator within 14 days of the notification of disagreement of one party to the other.

8.2.2 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute.

8.2.3 The Adjudicator shall be paid by the hour at the rate **specified in the BDS and SCC**, together with reimbursable expenses of the types **specified in the SCC**, and the cost shall be divided equally between the Employer and the Service Provider, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within 28 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator's decision will be final and binding.

8.2.4 Unless otherwise agreed by both the Employer and the Service Provider, arbitration shall be conducted as follows:

(a) For contracts with foreign Service Providers:

unless otherwise specified in the SCC; the dispute shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce; by one or three arbitrators appointed in accordance with these Rules. The place of arbitration shall be the neutral location **stated in the SCC**; and the arbitration shall be conducted in the ruling language **stated in the SCC**;

and

(b) For contracts with national Service Providers, arbitration with proceedings conducted in accordance with the laws of the Employer's country.

8.2.5 Should the Adjudicator resign or die, or should the Employer and the Service Provider agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator will be jointly appointed by the Employer and the Service Provider. In case of disagreement between the Employer and the Service Provider, within 30 days, the Adjudicator shall be designated by the Appointing Authority **designated in the SCC** at the request of either party, within 14 days of receipt of such request.

ATTACHMENT 1

Fraud and Corruption

(Text in this Attachment shall not be modified)

1. Purpose

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

2. Requirements

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

2.2 To this end, the Bank:

- a. Defines, for the purposes of this provision, the terms set forth below as follows:
 - i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
 - iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - v. "obstructive practice" is:
 - (a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

- (b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.
- b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- d. Pursuant to the Bank's Anti- Corruption Guidelines and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;¹ (ii) to be a nominated² sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
- e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents, personnel, permit the Bank to inspect³ all accounts, records and other documents relating to procurement process, selection

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

² A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

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

and/or contract execution, and to have them audited by auditors appointed by the Bank.

Section IX - Special Conditions of Contract

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
1.1	The words “in the Government’s country” are amended to read “in <i>Bhutan</i> ”
1.1(a)	The Adjudicator is <i>any person certified and accredited by Bhutan Alternative Dispute Resolution Centre subject to acceptance by both the parties (to be agreed before contract signing).</i>
1.1(e)	The contract name is Procurement of Exploratory Core Drilling and Associated Tests for Chamkharchhu II and Chamkharchhu IV HPP
1.1(h)	The Employer is Druk Green Power Corporation Limited
1.1(o)	The Member in Charge is _____
1.1(q)	The Service Provider is _____
1.2	The Applicable Law is: Laws of Kingdom of Bhutan
1.3	The language is: English
1.4	The addresses are: Employer: MoIT represented by Druk Green Power Corporation Limited Attention: Sonam Choden Telex: dgpcotenders@drukgreen.bt Service Provider: _____ Attention: _____ Telex: _____ Facsimile: _____
1.6	The Authorized Representatives are: For the Employer: Tshering Yangzom, Head Civil Unit, tshering.yangzom@drukgreen.bt, DGPC For the Service Provider: _____
1.8	In addition to GG 1.8, the contractor is liable for taxes as below: i) Goods and Service Tax at a flat rate @ 5% will be borne by DGPC incase of International Bidder and Goods and Service Tax at a flat rate @ 5% will be charged from the total value of the contract for Bhutanese Bidder, excluding Tax Deducted at Source (TDS)

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract																							
	ii) TDS is applicable at a rate of 2% for Bhutanese bidders and 5% for International Bidder, effective from January 1, 2026. For details refer to www.drc.gov.bt																							
2.1	The date on which this Contract shall come into effect is the date of signing the Contract Agreement.																							
2.2.2	The Starting Date for the commencement of Services is within 14 days of effectiveness of the contract.																							
2.3	The Intended Completion Date is: <table><tr><th>Lot</th><th>Delivery period</th></tr><tr><td>Lot I</td><td>315 days</td></tr><tr><td>Lot II</td><td>270 days</td></tr><tr><td>Lot III</td><td>315 days</td></tr><tr><td>Lot IV</td><td>300 days</td></tr></table>				Lot	Delivery period	Lot I	315 days	Lot II	270 days	Lot III	315 days	Lot IV	300 days										
Lot	Delivery period																							
Lot I	315 days																							
Lot II	270 days																							
Lot III	315 days																							
Lot IV	300 days																							
2.4.1	If the value engineering proposal is approved by the Employer the amount to be paid to the Service Provider shall be: Not Applicable																							
3.1	Not applicable																							
3.2.3	Activities prohibited after termination of this Contract are: None																							
3.4	The risks and coverage by insurance shall be for each lot: <table><tr><th>S.No</th><th>Insurance</th><th>Amount Insured</th><th>Deductibles</th></tr><tr><td>1.</td><td>Loss of or damage to the Services including DGPC issued materials, if any</td><td>110% of the cost of non-consulting services</td><td>Minimum as per insurance policy</td></tr><tr><td>2.</td><td>Loss of or damage to the Service Provider’s equipment</td><td>110% of the cost of tools and plant</td><td>Minimum as per insurance policy</td></tr><tr><td>3.</td><td>Loss of or damage to the property other than Services including those of third parties</td><td>As permissible under the policy</td><td>Minimum as per insurance policy</td></tr><tr><td>4.</td><td>Injury or death of personnel belonging to the Service Provider, DGPC or any other party</td><td>As permissible under the policy</td><td>Not applicable</td></tr></table>				S.No	Insurance	Amount Insured	Deductibles	1.	Loss of or damage to the Services including DGPC issued materials, if any	110% of the cost of non-consulting services	Minimum as per insurance policy	2.	Loss of or damage to the Service Provider’s equipment	110% of the cost of tools and plant	Minimum as per insurance policy	3.	Loss of or damage to the property other than Services including those of third parties	As permissible under the policy	Minimum as per insurance policy	4.	Injury or death of personnel belonging to the Service Provider, DGPC or any other party	As permissible under the policy	Not applicable
S.No	Insurance	Amount Insured	Deductibles																					
1.	Loss of or damage to the Services including DGPC issued materials, if any	110% of the cost of non-consulting services	Minimum as per insurance policy																					
2.	Loss of or damage to the Service Provider’s equipment	110% of the cost of tools and plant	Minimum as per insurance policy																					
3.	Loss of or damage to the property other than Services including those of third parties	As permissible under the policy	Minimum as per insurance policy																					
4.	Injury or death of personnel belonging to the Service Provider, DGPC or any other party	As permissible under the policy	Not applicable																					
3.5(d)	The other actions are: “None”																							

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
3.6	<i>“None”</i>
3.7	Restrictions on the use of documents prepared by the Service Provider are: Reports and documents shall be property of Employer and the Service Provider will not use them without prior approval of Employer.
3.8.1	The liquidated damages rate is 0.10 (zero point one) per day The maximum amount of liquidated damages for the whole contract is ten (10) percent of the final Contract Price.
3.8.3	The percentage of the cost of having the Defect corrected to be used for the calculation of Lack of performance Penalty(ies) is ten (10) percent .
3.9	A Performance Security <i>“shall” be required</i> The Performance Security shall be in the form of: <i>a unconditional Bank Guarantee</i> <i>The amount of the Performance Security shall be: 10% of the Contract Price in the currencies of the Contract, acceptable and enforceable in any Financial Institution of Bhutan.</i>
3.11	Not applicable
3.13	Service Provider shall be responsible for the security at the locations in the Employer’s country where the Services are carried out.
3.16	Cyber Security <i>“Does not apply”</i>
5.1	The assistance and exemptions provided to the Service Provider are: None
6.2(a)	The amount in local currency is (to be inserted before contract signing).
6.2(b)	The amount in foreign currency or currencies is.....
6.3.2	The performance incentive paid to the Service Provider shall be: Nil
6.4	Except for items expressly identified as lump-sum items in the accepted Price Schedule, payment shall be made on an admeasurement basis. The quantities, number of tests and drilling depths stated in the Price Schedule are estimated quantities provided for bid pricing, evaluation and contract administration. They shall not be regarded as guaranteed final quantities. Payment for satisfactorily completed and accepted Services shall be determined as follows: a. Mobilization and demobilization: Payment shall be made as a lump sum upon achievement and acceptance of the respective mobilization and demobilization milestones specified in the Contract.

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	b. Drilling work: Payment shall be based on the actual linear metres of drilling satisfactorily completed, jointly measured, verified and accepted for each applicable drilling item, multiplied by the corresponding unit rate in the accepted Price Schedule. Coring and non-coring drilling shall be measured and paid separately where separate items and rates are provided. c. In-situ tests: Payment shall be based on the actual number or sets of tests instructed, satisfactorily completed, properly documented and accepted by the Employer, multiplied by the corresponding unit rate in the accepted Price Schedule. d. Laboratory tests: Payment shall be based on the actual number of tests instructed, satisfactorily completed, supported by acceptable test results and reports, and accepted by the Employer, multiplied by the corresponding unit rate in the accepted Price Schedule. All measurements shall be jointly recorded by the Employer and the Service Provider in measurement sheets, drilling logs, test registers or other agreed records. The records shall identify, as applicable, the borehole, location, drilling depth, type of drilling, test performed, sample identification and date of completion. No payment shall be made for: i. Services not instructed or authorized by the Employer; ii. drilling, testing or other Services that do not comply with the Contract requirements; iii. unsuccessful or repeated work necessitated by the Service Provider's error, defective performance, equipment failure or noncompliance; or iv. quantities that have not been properly measured, documented, verified and accepted. The amount certified for an interim payment shall be based on the actual accepted quantities completed during the relevant payment period, valued at the corresponding unit rates in the accepted Price Schedule, less applicable deductions, advance-payment recovery, retention, taxes and other contractual adjustments. Any change in the required quantities, drilling depths, number of tests or locations shall be instructed and administered in accordance with the applicable variation provisions of the Contract. No change in quantity shall, by itself, entitle the Service Provider to revise an accepted unit rate unless expressly permitted under the Contract.”

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<i>Core recovery of less than 90% in any drill run will not generally be acceptable for payment unless the Client is satisfied that 90% recovery is impracticable under the prevailing geological conditions.</i>
6.5	Payment shall be made within 45 (forty-five) days of receipt of the invoice and the relevant documents specified in Sub-Clause 6.4, and within 90 (Ninety) days in the case of the final payment. The interest rate is 5 % per annum or as per the MLR of RMA. Foreign currency: 0.5% per annum above SOFR.
6.6.1	Price adjustment is: <i>Not applicable</i>
7.1	The principle and modalities of inspection of the Services by the Employer are as follows: i) Mobilization and site preparation; ii) Completion of drillings at each location and in-situ testing; iii) Laboratory test and report preparation; and iv) Final report submission. The Defects Liability Period is <i>not applicable</i>.
8.2.3	The Adjudicator is <i>any person certified and accredited by Bhutan Alternative Dispute Resolution Centre (ADRC) subject to acceptance by both the parties</i> , who will be paid a rate mutually agreed. The following reimbursable expenses are recognized: to be inserted before contract signing
8.2.4	Rules of arbitration <i>GCC 8.2.4 (a) shall be retained in the case of a Contract with a foreign Service Provider.</i> <i>GCC 8.2.4 (b) shall be retained in the case of a Contract with a domestic Service Provider.</i> <i>Place of arbitration is Singapore for Foreign and Bhutan for domestic service provider</i>
8.2.5	The designated Appointing Authority for a new Adjudicator shall be decided later.

Appendices

Appendix A - Description of the Services

Give detailed descriptions of the Services to be provided, dates for completion of various tasks, place of performance for different tasks, specific tasks to be approved by Employer, etc.

Appendix B - Schedule of Payments and Reporting Requirements

List all milestones for payments and list the format, frequency, and contents of reports or products to be delivered; persons to receive them; dates of submission; etc. If no reports are to be submitted, state here “Not applicable.”

Appendix C - Key Personnel and Subcontractors

- List under:*
- C-1 Titles [and names, if already available], detailed job descriptions and minimum qualifications of foreign Personnel to be assigned to work in the Government’s country, and staff-months for each.*
 - C-2 Same as C-1 for Key foreign Personnel to be assigned to work outside the Government’s country.*
 - C-3 List of approved Subcontractors (if already available); same information with respect to their Personnel as in C-1 or C-2.*
 - C-4 Same information as C-1 for Key local Personnel.*

Appendix D—Breakdown of Contract Price in Foreign Currency(ies)

List here the elements of cost used to arrive at the breakdown of the lump-sum price—foreign currency portion:

- 1. Rates for Equipment Usage or Rental or for Personnel (Key Personnel and other Personnel).*
- 2. Reimbursable expenditures.*

This appendix will exclusively be used for determining remuneration for additional Services.

Appendix E - Breakdown of Contract Price in Local Currency

List here the elements of cost used to arrive at the breakdown of the lump-sum price—local currency portion:

1. *Rates for Equipment Usage or Rental or for Personnel (Key Personnel and other Personnel).*
2. *Reimbursable expenditures.*

This appendix will exclusively be used for determining remuneration for additional Services.

Appendix F - Services and Facilities Provided by the Employer

Appendix G - Performance Incentive Compensation Appendix (Not Applicable)

Performance Incentive Compensation Appendix Provisions (Not Applicable)

ARTICLE 1- GENERAL

1.1 Documents Comprising the Performance Incentive Compensation Appendix

The Performance Incentive Compensation Appendix consists of:

- (a) the Performance Incentive Compensation Appendix Provisions;
- (b) Attachment #1 Incentive Compensation Calculation Procedure Notes; and
- (c) Attachment #2 Incentive Compensation Charts 1-[].

ARTICLE 2- THE PERFORMANCE INCENTIVE COMPENSATION

2.1 Performance Incentive Compensation Limits

- (1) The Performance Incentive Compensation paid to the Service Provider shall not exceed the equivalent of \$[] U.S. over the term of the Contract.
- (2) The actual amount paid to the service Provider as Performance Incentive Compensation shall be determined by the extent to which the Service Provider achieves the performance criteria set out in the Incentive Compensation Charts and by the application of the calculations set out in the Incentive Calculation Procedure Notes for the applicable Contract Year.
- (3) If the Service Provider fails to meet the “Excellent” rating set out in the Incentive Compensation Chart, in any Contract Year, the Service Provider will be obliged to make up the shortfall in the subsequent Contract Year, as well as meet the performance targets for that Contract Year.
- (4) Except as the Employer may, in its sole discretion, otherwise determine based on exceptional circumstances, if the Service Provider fails to attain the Maximum Annual Incentive Compensation in any Contract Year, the shortfall will not be available to the Service Provider in the subsequent Contract Years and the equivalent of \$[] U.S. per Contract Year maximum will not be increased.
- (5) For the purpose of calculating the equivalency of \$[] U.S. and \$[] U.S. pursuant to Sections 2.1(1) and 2.1(2) of this Performance Incentive Compensation Appendix, the equivalency shall be calculated as of the date of payment of the Performance Incentive Compensation.

**ATTACHMENT # 1 – APPENDIX G
INCENTIVE COMPENSATION CALCULATION PROCEDURE NOTES**

[SAMPLE: This part is to be designed on a case by case approach]

**PART A THE METHOD FOR CALCULATING PERFORMANCE INCENTIVE
COMPENSATION IN EACH CONTRACT YEAR**

I. The Performance Incentive Compensation for each Contract Year shall be calculated as follows:

$$\text{Compensation} = \text{Composite Score} \times 0.2 \times \text{Maximum Annual Incentive Compensation}$$

Where:

- (i) The Maximum Annual Incentive Compensation is calculated as set out in Section 2.1 of the Performance Incentive Compensation Appendix Provisions; and
- (ii) The Composite Score is calculated in accordance with “Part B-The Method for Calculating the Composite Score” of these Incentive Compensation Calculation Procedure Notes.

PART B THE METHOD FOR CALCULATING THE COMPOSITE SCORE

1. The Composite Score for each Contract Year shall be as follows:

Composite Score Total of All Weighted Scores **for the Performance Criteria**

Where:

- (i) The Weighted Score for each Performance Criterion equals Criterion Weight x Criterion Value;
- (ii) The Criterion Value is measured from “Excellent” to “Poor” with corresponding values of 5 (for “Excellent” performance) to 1 (for “Poor” performance) as set out in the Incentive Compensation Charts and evaluated based on the performance of the Service Provider;
- (iii) The Criterion Value which the Operator receives for any Performance Criterion is based upon the technical standards set out in the Incentive Compensation Charts under the headings, “Excellent”, “Very Good”, “Good”, “Fair”, and “Poor” as compared against the Operator’s actual technical standards in each Contract Year; and
- (iv) If the Service Provider’s actual performance in a Contract Year,
 - (a) exceeds the technical standards for an “Excellent” Criterion Value, then the Criterion Value shall be 5;
 - (b) is less than the technical standards for a “Poor” Criterion Value, then the Criterion Value shall be zero; or
 - (c) is in between the technical standards for two Criterion Values, then the Criterion

Value shall be rounded down to the nearest whole number or 0.5 decimal point.

2. For the purpose of clarity, it is noted that there are only ten Criterion Values to be used as follows: 0, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5 and 5.

3. Notwithstanding paragraphs 1 and 2 above, with respect to the Performance Criterion relating to institutional improvements in Attachment #2 The Incentive Compensation Charts 1-8,

- (a) if the Service Provider's actual performance in a Contract Year is less than the technical standard for a "Fair" Criterion Value, then the Criterion Value shall be zero;
- (b) for the purpose of clarity, it is noted that there are only three Criterion Values to be used as follows: 0, 2 and 5; and
- (c) each of the documents or plans listed under the Performance Criterion shall be scored with the appropriate Criterion Value and a mean average score will be taken to calculate the Criterion Value for the Performance Criterion, which shall be rounded down to the nearest whole point or 0.5 decimal point.

4. For ease of reference, the following calculation represents the calculation of the Composite Score for a hypothetical Service Provider for four performance criteria in one Contract Year.

Sample Incentive Compensation Chart

Performance Criterion		Units	Criterion Values				
			Weight				
			Excellent	Very Good	Good	Fair	Poor
1.	e.g. Electricity use [% reduction in kW. hr consumed from Base Year]	0.30	65	55	50	40	30
2.	[Criterion 2] []	0.25	20	19	17	16	15
3.	[Criterion 3] []	0.15	30	25	20	15	10
4.	[Criterion ~] []	0.30	90	85	80	75	70

The following table demonstrates the procedure for the calculation of the "**Composite Score**", if at the end of the year the achievements of the Service Provider are as follows:

1.	[e.g. Electricity use]	57
2.	[Criterion 2]	22
3.	[Criterion 3]	29
4.	[Criterion 4]	69

Performance Incentive Compensation Appendix

Chart 1

Performance Incentive Obligations

Year [1]

Services				Criterion Values				
Apndx. Ref.	Performance Criterion	Units	Weight	Excellent 5	Very Good 4	Good 3	Fair 2	Poor 1
	[Development of Plans and Programs¹]	Quality and Timeliness	[0.45]	Completed on time with no need for revision to the substance of the document	N/A	N/A	Completed on time but requires revision to the substance of the document	N/A
	[Energy Management]	% reduction of kilowatt hours of electricity per unit produced from Base Year	[0.25]	4	3.5	3	2.5	2
	[Computerized Billing and Collection System]	number of days after the Starting Date until the computerized billing and collection system is in place	[0.30]	140	150	160	170	180

[Note: The chart is a sample only.]

(1) In respect of the Plans and Programs each plan or program listed in Section [•] shall be given a score of either 5 (Excellent), 2 (Fair) or (0) and the average score for all plans and programs shall be multiplied by the Criteria Weight. The average score shall be rounded to the nearest .5 decimal.

Appendix H- CODE OF CONDUCT FOR SERVICE PROVIDER's PERSONNEL

Appendix I- Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment (SH) Performance Declaration for Subcontractors

[The following table shall be filled in by each subcontractor proposed by the Contractor, that was not named in the Contract]

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

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

Contract reference *[insert contract reference]*

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

SEA and/or SH Declaration
We: ☐ (a) have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. ☐ (b) are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. ☐ (c) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. An arbitral award on the disqualification case has been made in our favor.
<i>[If (c) above is applicable, attach evidence of an arbitral award reversing the findings on the issues underlying the disqualification.]</i>

Name of the Subcontractor _____

Name of the person duly authorized to sign on behalf of the Subcontractor _____

Title of the person signing on behalf of the Subcontractor _____

Signature of the person named above _____

Date signed _____ day of _____, _____

Countersignature of authorized representative of the Contractor:

Signature: _____

Date signed _____ day of _____, _____

Section X - Contract Forms

Table of Forms

Notification of Intention to Award	185
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Performance Security	194
Advance Payment Security	198

Notification of Intention to Award (Not Applicable)

[This Notification of Intention to Award shall be sent to each Bidder that submitted a Bid unless the Bidder has previously received notice of exclusion from the process at an interim stage of the procurement process]

[Send this Notification to the Bidder's Authorized Representative named in the Bidder Information Form]

For the attention of Bidder's Authorized Representative

Name: *[insert Authorized Representative's name]*

Address: *[insert Authorized Representative's Address]*

Telephone/Fax numbers: *[insert Authorized Representative's telephone/fax numbers]*

Email Address: *[insert Authorized Representative's email address]*

[IMPORTANT: insert the date that this Notification is transmitted to Bidders. The Notification must be sent to all Bidders simultaneously. This means on the same date and as close to the same time as possible.]

DATE OF TRANSMISSION: This Notification is sent by: *[email/fax]* on *[date]* (local time)

Notification of Intention to Award

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

Project: *[insert name of project]*

Contract title: *[insert the name of the contract]*

Country: *[insert country where RFB is issued]*

Loan No. /Credit No. / Grant No.: *[insert reference number for loan/credit/grant]*

RFB No: *[insert RFB reference number from Procurement Plan]*

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period you may:

- a) request a debriefing in relation to the evaluation of your Bid, and/or
- b) submit a Procurement-related Complaint in relation to the decision to award the contract.

1. The successful Bidder

Name:	<i>[insert name of successful Bidder]</i>
Address:	<i>[insert address of the successful Bidder]</i>
Contract price:	<i>[insert contract price of the successful Bid]</i>
Total combined	<i>[insert the total combined score of the successful Bidder]</i>

score:	
---------------	--

2. Other Bidders *[INSTRUCTIONS: insert names of all Bidders that submitted a Bid, Bid prices as read out and evaluated, technical scores and combined scores.]*

Name of Bidder	Technical Score	Bid price	Evaluated Bid cost (if applicable)	Combined Score
[insert name]	[insert Technical score]	[insert Bid price]	[insert evaluated cost]	[insert combined score]
[insert name]	[insert Technical score]	[insert Bid price]	[insert evaluated cost]	[insert combined score]
[insert name]	[insert Technical score]	[insert Bid price]	[insert evaluated cost]	[insert combined score]
[insert name]	[insert Technical score]	[insert Bid price]	[insert evaluated cost]	[insert combined score]
[insert name]	[insert Technical score]	[insert Bid price]	[insert evaluated cost]	[insert combined score]

3. Reason/s why your Bid was unsuccessful *[Delete if the combined score already reveals the reason]*

[INSTRUCTIONS: State the reason/s why this Bidder's Bid was unsuccessful. Do NOT include: (a) a point by point comparison with another Bidder's Bid or (b) information that is marked confidential by the Bidder in its Bid.]

4. How to request a debriefing

DEADLINE: The deadline to request a debriefing expires at midnight on [insert date] (local time).

You may request a debriefing in relation to the results of the evaluation of your Bid. If you decide to request a debriefing your written request must be made within three (3) Business Days of receipt of this Notification of Intention to Award.

Provide the contract name, reference number, name of the Bidder, contact details; and address the request for debriefing as follows:

Attention: [insert full name of person, if applicable]

Title/position: *[insert title/position]*

Agency: *[insert name of Employer]*

Email address: *[insert email address]*

Fax number: *[insert fax number]* ***delete if not used***

If your request for a debriefing is received within the 3 Business Days deadline, we will provide the debriefing within five (5) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (5) Business Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.

The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.

If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of the Contract Award Notice.

5. How to make a complaint

DEADLINE: The deadline for submitting a Procurement-related Complaint challenging the decision to award the contract expires on midnight, *[insert date]* (local time).

Provide the contract name, reference number, name of the Bidder, contact details; and address the Procurement-related Complaint as follows:

Attention: *[insert full name of person, if applicable]*

Title/position: *[insert title/position]*

Agency: *[insert name of Employer]*

Email address: *[insert email address]*

Fax number: *[insert fax number]* ***delete if not used***

At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.

Further information:

For more information see the [Procurement Regulations for IPF Borrowers \(Procurement Regulations\)](#) (Annex III). You should read these provisions before preparing and submitting your complaint. In addition, the World Bank's Guidance "[How to make a Procurement-related Complaint](#)" provides a useful explanation of the process, as well as a sample letter of complaint.

In summary, there are four essential requirements:

1. You must be an ‘interested party’. In this case, that means a Bidder who submitted a Bid in this procurement process, and is the recipient of a Notification of Intention to Award.
2. The complaint can only challenge the decision to award the contract.
3. You must submit the complaint within the period stated above.
4. You must include, in your complaint, all of the information required by the Procurement Regulations (as described in Annex III).

6. Standstill Period

DEADLINE: The Standstill Period is due to end at midnight on [insert date] (local time).

The Standstill Period lasts ten (10) Business Days after the date of transmission of this Notification of Intention to Award.

The Standstill Period may be extended, as stated in Section 4 above. This may happen where we are unable to provide a debriefing within the five (5) Business Day deadline. If this happens, we will notify you of the extension.

If you have any questions regarding this Notification please do not hesitate to contact us.

On behalf of the Employer:

Signature: _____

Name: _____

Title/position: _____

Telephone: _____

Email: _____

Beneficial Ownership Disclosure Form (Not Applicable)

INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE FORM

This Beneficial Ownership Disclosure Form (“Form”) is to be completed by the successful Bidder¹. In case of joint venture, the Bidder must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.

For the purposes of this Form, a Beneficial Owner of a Bidder is any natural person who ultimately owns or controls the Bidder by meeting one or more of the following conditions:

- *directly or indirectly holding 25% or more of the shares*
- *directly or indirectly holding 25% or more of the voting rights*
- *directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder*

RFB No.: [insert number of RFB process]

Request for Bid No.: [insert identification]

To: [insert complete name of Employer]

In response to your request in the Letter of Acceptance dated [insert date of letter of Acceptance] to furnish additional information on beneficial ownership: [select one option as applicable and delete the options that are not applicable]

(i) we hereby provide the following beneficial ownership information.

Details of beneficial ownership

Identity of Beneficial Owner	Directly or indirectly holding 25% or more of the shares (Yes / No)	Directly or indirectly holding 25 % or more of the Voting Rights (Yes / No)	Directly or indirectly having the right to appoint a majority of the board of the directors or an equivalent governing body of the Bidder (Yes / No)
[include full name (last, middle, first), nationality, country of residence]			

OR

(ii) *We declare that there is no Beneficial Owner meeting one or more of the following conditions:*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder

OR

(iii) *We declare that we are unable to identify any Beneficial Owner meeting one or more of the following conditions. [If this option is selected, the Bidder shall provide explanation on why it is unable to identify any Beneficial Owner]*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder”

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

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

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

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

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

* In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder. In the event that the Bidder is a joint venture, each reference to “Bidder” in the Beneficial Ownership Disclosure Form (including this Introduction thereto) shall be read to refer to the joint venture member.

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

Letter of Acceptance

[letterhead paper of the Employer]

[date]

To: *[name and address of the Service Provider]*

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 Special Conditions of Contract]* for the Contract Price of the equivalent of *[amount in numbers and words] [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 (i) the Performance Security within 28 days in accordance with the Conditions of Contract, using for that purpose one of the Performance Security Forms and (ii) the additional information on beneficial ownership in accordance with ITB 45.1, within eight (8) Business days using the Beneficial Ownership Disclosure Form, included in Section X, - Contract Forms, of the bidding document.

Note: Insert one of the 3 options for the second paragraph. The first option should be used if the Bidder has not objected the name proposed for Adjudicator. The second option if the Bidder has objected the proposed Adjudicator and proposed a name for a substitute, who was accepted by the Employer. And the third option if the Bidder has objected the proposed Adjudicator and proposed a name for a substitute, who was not accepted by the Employer.

We confirm that *[insert name proposed by Employer in the Bid Data Sheet]*,

or

We accept that *[name proposed by Bidder]* be appointed as the Adjudicator

or

We do not accept that *[name proposed by Bidder]* be appointed as Adjudicator, and by sending a copy of this letter of acceptance to *[insert the name of the Appointing Authority]*, we are hereby requesting *[name]*, the Appointing Authority, to appoint the Adjudicator in accordance with ITB 47.1

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

Attachment: Contract

Contract Agreement

This AGREEMENT is made the [day] day of the month of [month], [year], between, on the one hand, [name of Employer] (hereinafter called the “Employer”) and, on the other hand, [name of Service Provider] (hereinafter called the “Service Provider”).

[Note: In the text below text in brackets is optional; all notes should be deleted in final text. If the Service Provider consist of more than one entity, the above should be partially amended to read as follows: “...(hereinafter called the “Employer”) and, on the other hand, a joint venture consisting of the following entities, each of which will be jointly and severally liable to the Employer for all the Service Provider’s obligations under this Contract, namely, [name of Service Provider] and [name of Service Provider] (hereinafter called the “Service Provider”).]

WHEREAS

- (a) the Employer has requested the Service Provider to provide certain Services as defined in the General Conditions of Contract attached to this Contract (hereinafter called the “Services”);
- (b) the Service Provider, having represented to the Employer that they have the required professional skills, and personnel and technical resources, have agreed to provide the Services on the terms and conditions set forth in this Contract at a contract price of.....;
- (c) the Employer has received [or has applied for] a loan from the International Bank for Reconstruction and Development (hereinafter called the “Bank”) [or a credit from the International Development Association (hereinafter called the “Association”)] towards the cost of the Services and intends to apply a portion of the proceeds of this loan [or credit] to eligible payments under this Contract, it being understood (i) that payments by the Bank [or Association] will be made only at the request of the Employer and upon approval by the Bank [or Association], (ii) that such payments will be subject, in all respects, to the terms and conditions of the agreement providing for the loan [or credit], and (iii) that no party other than the Employer shall derive any rights from the agreement providing for the loan [or credit] or have any claim to the loan [or credit] proceeds;

NOW THEREFORE the parties hereto hereby agree as follows:

1. The following documents shall be deemed to form and be read and construed as part of this Agreement, and the priority of the documents shall be as follows:

- (a) the Letter of Acceptance;
- (b) the Letter of Bid;
- (c) the Special Conditions of Contract;
- (d) the General Conditions of Contract;
- (e) the Specifications;

- (f) the Priced Activity Schedule; and
- (g) The following Appendices: [**Note:** *If any of these Appendices are not used, the words “Not Used” should be inserted below next to the title of the Appendix and on the sheet attached hereto carrying the title of that Appendix.*]

Appendix A: Description of the Services

Appendix B: Schedule of Payments

Appendix C: Key Personnel and Subcontractors

Appendix D: Breakdown of Contract Price in Foreign Currency

Appendix E: Breakdown of Contract Price in Local Currency

Appendix F: Services and Facilities Provided by the Employer

Appendix G: Performance Incentive Compensation

Appendix H: Code of Conduct for Service Provider’s Personnel

- 2. The mutual rights and obligations of the Employer and the Service Provider shall be as set forth in the Contract, in particular:
 - (a) the Service Provider shall carry out the Services in accordance with the provisions of the Contract; and
 - (b) the Employer shall make payments to the Service Provider in accordance with the provisions of the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of _____ on the day, month and year indicated above.

For and on behalf of the Employer:

Signed: *[insert signature]*

in the capacity of *[insert title or other appropriate designation]*

in the presence of *[insert identification of official witness]*

For and on behalf of the Service Provider:

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

in the capacity of *[insert title or other appropriate designation]*

in the presence of *[insert identification of official witness]*

Performance Security

Option 1: (Bank Guarantee)

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

[Guarantor letterhead or SWIFT identifier code]

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

Date: *_ [Insert date of issue]*

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

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

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

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

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

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

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

² Insert the date twenty-eight days after the expected completion date as described in GCC. The Service Provider should note that in the event of an extension of this date for completion of the Contract, the Service Provider

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

[signature(s)]

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

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 Service Provider might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

Option 2: Performance Bond (Not Applicable)

By this Bond *[insert name of Principal]* as Principal (hereinafter called “the Service Provider”) and *[insert name of Surety]* as Surety (hereinafter called “the Surety”), are held and firmly bound unto *[insert name of Employer]* as Obligee (hereinafter called “the Service Provider”) in the amount of *[insert amount in words and figures]*, for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Service Provider and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Service Provider has entered into a written Agreement with the Employer dated the _____ day of _____, 20 ____, for *[name of contract and brief description of Non-Consulting Services]* in accordance with the documents, plans, specifications, and amendments thereto, which to the extent herein provided for, are by reference made part hereof and are hereinafter referred to as the Contract.

NOW, THEREFORE, the Condition of this Obligation is such that, if the Service Provider shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Service Provider shall be, and declared by the Employer to be, in default under the Contract, the Employer having performed the Employer’s obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

- (1) complete the Contract in accordance with its terms and conditions; or
- (2) obtain a Bid or Bids from qualified Bidders for submission to the Employer for completing the Contract in accordance with its terms and conditions, and upon determination by the Employer and the Surety of the lowest responsive Bidder, arrange for a Contract between such Bidder and Employer and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term “Balance of the Contract Price,” as used in this paragraph, shall mean the total amount payable by Employer to the Service Provider under the Contract, less the amount properly paid by Employer to the Service Provider; or
- (3) pay the Employer the amount required by Employer to complete the Contract in accordance with its terms and conditions up to a total not exceeding the amount of this Bond.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

Any suit under this Bond must be instituted before the expiration of one year from the date of the issuing of the Taking-Over Certificate.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Employer named herein or the heirs, executors, administrators, successors, and assigns of the Employer.

In testimony whereof, the Service Provider has hereunto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly attested by the signature of his legal representative, this _____ day of _____ 20 ____.

SIGNED ON _____ on behalf of _____

By _____ in the capacity of _____

In the presence of _____

SIGNED ON _____ on behalf of _____

By _____ in the capacity of _____

In the presence of _____

Advance Payment Security

[Guarantor letterhead or SWIFT identifier code]

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

Date: *[Insert date of issue]*

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

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

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

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

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

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

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

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

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

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

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

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[signature(s)]

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