

**DRUK GREEN POWER CORPORATION LIMITED**



**REQUEST FOR PROPOSAL**

**FOR**

**CONSULTANCY SERVICES FOR PREPARATION OF DETAIL  
PROJECT REPORT (DPR) INCLUDING ENVIRONMENTAL AND  
SOCIAL IMPACT ASSESSMENT (ESIA)**

**OF**

**KHOMACHHU HYROPOWER PROJECT**

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**RFP NO: CO0020/2025 DATED JUNE 13, 2025**

**(International Competitive Bidding Process)**

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**SECTION I – LETTER OF INVITATION**

## INVITATION FOR PROPOSALS

**Druk Green Power Corporation Limited**  
**Projects and Contract Department**  
**Thimphu, Bhutan**

**Request for Proposals (RFP) for Consulting Services**

**Preparation of Detailed Project Report (DPR) including Environmental and Social Impact Assessment (ESIA) for Khomachhu Hydropower Project**

## INTERNATIONAL COMPETITIVE BIDDING

**RFP No: CO0020/2025**

**June 13, 2025**

Druk Green Power Corporation Limited (DGPC) hereby invites sealed proposals from eligible and qualified consulting firms to provide consultancy services for the **Preparation of Detailed Project Report (DPR) including Environmental and Social Impact Assessment (ESIA) for the Khomachhu Hydropower Project**. The full scope of services is detailed in the Terms of Reference (refer Section VII of the RFP).

The procurement process will be conducted in accordance with the Quality and Cost Based Selection (QCBS) method, as specified in the Request for Proposals (RFP) documents, and is open to all eligible consulting firms as defined in the RFP.

Interested eligible consultants may obtain further information and inspect the RFP documents at the address provided below during office hours.

Proposals must be prepared and submitted in accordance with the requirements stated in the Bid Data Sheet and must include all supporting information and documentation as specified therein.

Submission Details:

- Deadline for Submission of Proposals: July 14, 2025, by 15:00 hours Bhutan Standard Time (BST).
- Opening of Proposals: On the same day at 15:30 hours BST.

Bidders may also submit their proposals electronically. Electronic proposals must be submitted in PDF format and must be password-protected. Bidders are required to submit the password for their proposals on the date of proposal opening, prior to 15:00 hours BST.

The complete RFP document consists of the following sections:

- Section I - Letter of Invitation
- Section II - Instructions to Consultants
- Section III - Bid Data Sheet
- Section IV - Standard Bidding Forms
- Section V - General Conditions of Contract
- Section VI - Special Conditions of Contract
- Section VII - Terms of Reference
- Section VIII - Standard Forms of Contract
- Section IX - Performance Evaluation System

DGPC reserves the right to accept or reject any or all proposals, and to annul the bidding process at any time without incurring any liability to the affected parties.

**Contact Information:**

Sonam Choden  
Manager, Contracts Section  
Projects and Contract Department  
Druk Green Power Corporation Limited  
Post Box No. 1351  
Motithang, Thimphu, Bhutan  
Email: [s.choden272@drukgreen.bt](mailto:s.choden272@drukgreen.bt)

**SECTION II – INSTRUCTION TO CONSULTANTS**

## SECTION II – INSTRUCTION TO CONSULTANTS

### ITC. 1. Definitions

ITC.1.1. Unless otherwise stated, throughout this RFP, definitions and interpretations shall be as prescribed in the General Conditions of Contract (GCC).

### ITC. 2. Introduction

ITC.2.1. DGPC will select the Consultant from those listed in the Letter of Invitation in accordance with the method of selection specified in the Bid Data Sheet (BDS). The shortlisted Consultants are invited to submit a Technical Proposal and a Financial Proposal, or a Technical Proposal only, as specified in the BDS for Consulting Services required for the assignment named in the BDS. The Proposal will be the basis for contract negotiations and ultimately for a signed Contract with the selected Consultant.

ITC.2.2. Consultants should familiarize themselves with local conditions and take these into account in preparing their Proposals if necessary.

ITC.2.3. DGPC will provide at no cost to the Consultant the inputs and facilities specified in the BDS as per requirement, assist the Consultant on best effort basis in obtaining licenses and permits needed to carry out the Services, and make available relevant project data and reports.

ITC.2.4. Consultants shall bear all costs with the preparation and submission of their proposals and contract negotiation. DGPC is not bound to accept any proposal and reserves the right to annul the selection process at any time prior to Contract award, without thereby incurring any liability to the DGPC.

### ITC. 3. Conflict of Interest

ITC.3.1. DGPC requires that Consultants provide professional, objective and impartial advice, and at all times hold DGPC's interests paramount, strictly avoid conflicts with other assignments or their own corporate interests, and act without any consideration for future work. Without limitation on the generality of the foregoing Consultants, and any of their affiliates, shall be considered to have a conflict of interest, and shall not be awarded a contract, under any of the circumstances set forth below:

a) **Conflicting Activities:** A firm that has been engaged by DGPC to provide goods, works or services other than Consulting Services for a project, and any of its affiliates, shall be disqualified from providing Consulting Services related to those goods, works or services. A firm hired to provide Consulting Services for the preparation or implementation of a project, and any of its affiliates, shall be disqualified from subsequently providing goods or works or services resulting from or directly related to the firm's Consulting Services for such preparation or implementation. For the purposes of this clause, services other than Consulting Services are defined as those leading to a measurable physical output, for example surveys, exploratory drilling, aerial photography, and satellite imagery.

b) **Conflicting Assignments:** A Consultant, including its Sub Consultants, affiliates and the Personnel of any of the foregoing, shall not be hired for any assignment that, by its nature, may be in conflict with another assignment of the Consultant to be executed for DGPC or for another Procuring Agency. Similarly, a Consultant hired to prepare Terms of Reference for an assignment, or otherwise to provide any other services during the preparatory stages of the assignment or of the project of which the assignment forms a part, shall not be hired for the assignment in question.

- c) **Conflicting Relationships:** A Consultant, including its Sub Consultant, affiliates and the Personnel of any of the foregoing:
  - i) that has a business relationship with a member of DGPC’s staff who is directly or indirectly involved in any part of (i) the preparation of the Terms of Reference of the assignment, (ii) the selection process for such assignment, or (iii) supervision of the Contract, may not be awarded a Contract, unless the conflict stemming from this relationship has been resolved in a manner acceptable to DGPC throughout the selection process and the execution of the Contract.
  - ii) that employs or otherwise engages a spouse, or any of the dependent parent of an employee or close relative of DGPC employee, shall not be eligible to be awarded a Contract. For the purposes of this sub-paragraph, a close relative is defined as immediate family which includes, brother, sister, and own children.

ITC.3.2. Consultants have an obligation to disclose any situation of actual or potential conflict that impacts their capacity to serve the best interests of DGPC, or that may reasonably be perceived as having Conflict of Interest. Failure to disclose said situations may lead to the disqualification of the Consultant or the termination of its Contract.

ITC.3.3. When the Consultant nominates any present or previous government employee as Personnel in its Technical Proposal, such Personnel must have written certification from the Royal Civil Service Commission of Bhutan or their employer confirming that:

- a) They are not current employees of their previous official employer,
- b) They are on leave without pay from their official position, and
- c) They are allowed to work full-time outside of their previous official position.

Such certification (s) shall be provided to DGPC by the Consultant as part of its Technical Proposal.

ITC.3.4. When the Consultant nominates any former employee of DGPC as Personnel in its Technical Proposal it must ensure, and so certify in its Technical Proposal, that no conflict of interest exists in the scope of the former employee’s inclusion within the Consultant’s Personnel being proposed to provide the Consultancy Services.

#### **ITC. 4. Fraud and Corruption**

ITC.4.1. DGPC requires that Consultants, their Sub-Consultants and the Personnel of them both, shall observe the highest standards of ethics during the procurement process and execution of contracts. In pursuance of this policy, the terms “Corrupt practice”, “Fraudulent practice”, “Collusive practice”, “Coercive practice and “Obstructive practice” shall be as per definition in GCC.12.

ITC.4.2. DGPC will reject a Proposal for award if it determines that the Consultant recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the Contract in question.

ITC.4.3. DGPC will sanction a Consultant or individual, including declaring them ineligible, either indefinitely or for a stated period of time, to be awarded a Contract if at any time it determines that they have, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for, or in executing, for the Contract in question.

ITC.4.4. DGPC requires that Consultants, as a condition of admission to eligibility, execute and attach to their Bids an Integrity Pact Statement in the form provided in FORM TECH-10: Integrity Pact Statement of Section III. Failure to provide a duly executed Integrity Pact Statement may result in disqualification of the Bid; and

ITC.4.5. DGPC will report any case of corrupt, fraudulent, collusive, coercive or obstructive practice to the relevant agencies, including but not limited to the Anti-corruption Commission (ACC) of the Kingdom of Bhutan, for necessary action in accordance with the statutes and provisions of the relevant agency.

ITC.4.6. Furthermore, the Bidders shall make themselves fully aware of the provisions stated in GCC.12.

ITC.4.7. Consultants shall furnish information on commissions and gratuities, if any, paid or to be paid to agents relating to this proposal and during execution of the assignment if the Consultant is awarded the Contract, as requested in the Form FIN-1 of Section IV.

#### **ITC. 5. Eligible Countries**

ITC.5.1. Consultancy Services provided under the Contract may originate from any country except if:

- a) as a matter of law or official regulation, RGoB prohibits commercial relations with that country; or
- b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Bhutan prohibits any services from that country or any payments to persons or entities in that country.

#### **ITC. 6. Only One Proposal per Consultant**

ITC.6.1. A Consultant may only submit one proposal against this RFP. If a Consultant submits or participates in more than one proposal, such proposals shall be disqualified. However, this does not limit the participation of the same Sub-Consultant, including individual experts, in more than one proposal.

#### **ITC. 7. Proposal Validity**

ITC.7.1. The BDS indicates how long Consultants' Proposals must remain valid after the submission date. During this period, Consultants shall maintain the availability of professional staff nominated in the Proposal. DGPC will make its best efforts to complete evaluation and negotiations within this period. Should the need arise, DGPC may request Consultants in writing to extend the validity period of their proposals. Consultants who agree to such extension shall confirm in writing that they maintain the availability of the professional staff nominated in the Proposal or, in their confirmation of extension of validity of the Proposal. Consultants could submit new staff in replacement who would be considered in the final evaluation for Contract award. Consultants who do not agree have the right to refuse to extend the validity of their Proposals.

#### **ITC. 8. Eligibility of Sub-consultants**

ITC.8.1. In case a shortlisted Consultant intends to associate with other Consultants who have not been shortlisted and/or individual expert (s), such other Consultants and/or individual expert (s) shall be subject to the eligibility criteria as are stipulated in the BDS.

#### **ITC. 9. Exclusion of Consultant or Sub-consultant**

ITC.9.1. A Consultant and any Sub-consultant shall not be permitted to submit a proposal or to be awarded a Contract under any of the following circumstances:

- a) The Consultant/ Sub-consultant is insolvent or is in receivership or is a bankrupt or is in the process of being wound up; or has entered into an arrangement with the creditors; or

- b) The Consultant's/ Sub-consultant's affairs are being administered by a court, judicial officer or appointed liquidator; or
- c) The Consultant/ Sub-consultant has suspended business or is in any analogous situation arising from similar procedures under the laws and regulations of his country of establishment; or
- d) The Consultant/ Sub-consultant has been found guilty of professional misconduct by any competent authority as per law; or
- e) The Consultant/ Sub-consultant has been guilty of misrepresentation in supplying information in its proposal or in the prior process leading to it being classified as a shortlisted Consultant; or the Consultant/ Sub-consultant has not fulfilled his obligations with regard to the payment of taxes, social security or other payments due in accordance with the laws of the country in which he is established or of the Kingdom of Bhutan; or
- f) The Consultant/ Sub-consultant has been declared by DGPC to be ineligible for participation in invitation of proposal on account of any fraud and/or corruption in competing or executing a Contract; or
- g) The Consultant/ Sub-consultant has not fulfilled any of the contractual obligations with the DGPC in the past; or
- h) The Consultant/ Sub-consultant has been debarred from participation in public procurement by any competent authority as per law.

#### **ITC. 10. Clarifications and Amendments of RFP Documents**

ITC.10.1. Consultants may request a clarification of any part of the RFP document up to the date indicated in the BDS before the proposal submission date. Any request for clarification must be sent in writing to DGPC's address indicated in the BDS. DGPC will respond in writing, and will send written copies of the response (including an explanation of the query but without identifying the source of the inquiry) to all Consultants, not later than 15 days prior to the dateline/extended dateline for submission of proposals. Should DGPC deem it necessary to amend the RFP as a result of a clarification, it shall do so following the procedure under ITC.10.3 below.

ITC.10.2. A pre-proposal meeting will be conducted only if strictly necessary to clarify doubts and concerns of the shortlisted Consultants prior to submission of proposals. Consultants are encouraged to attend a pre-proposal meeting if one is specified in the BDS. Attending the pre-proposal meeting is optional. Minutes of the pre-proposal meeting shall be circulated to all shortlisted Consultants.

ITC.10.3. At any time before the submission of Proposals DGPC may amend the RFP by issuing an addendum in writing. The addendum shall be sent to all shortlisted Consultants and will be binding on them DGPC shall in no way responsible for any ignorance of the Consultant about the amendment to the proposals. To give Consultants reasonable time in which to take an addendum into account in their Proposals, DGPC may, if the addendum is substantial, extend the deadline for the submission of Proposals.

#### **ITC. 11. Proposal Security**

ITC.11.1. The Consultant shall furnish, as part of its Proposal, a Proposal Security in original form, denominated in the currency and in the amount specified in the BDS.

ITC.11.2. The Proposal Security shall:

- a) at the Consultant's option, be in any of the following forms:
  - i) a Cash Warrant; or
  - ii) a Demand Draft; or
  - iii) Banker's Cheque/Cash order; or
  - iv) a Bank Guarantee as per Form Tech-14 of Section III

- b) be issued by a financial institution of Bhutan or any foreign bank acceptable and enforceable in any financial institution of Bhutan;
- c) be promptly payable upon written demand by DGPC in case any of the conditions listed in 0 are invoked;
- d) remain valid for a period of thirty (30) days beyond the end of the validity period of the Proposal, as extended, if applicable, in accordance with ITC. 7. Accordingly, the Proposal Security shall remain valid till the date specified in the BDS.

ITC.11.3. The Proposal Security is to be submitted in a separate sealed envelope. Any Proposal not accompanied by adequate Proposal Security and validity shall be rejected by DGPC as non-responsive.

ITC.11.4. No interest shall be paid by DGPC on the Proposal Security.

ITC.11.5. The Proposal Security shall be returned to successful and unsuccessful Consultants as promptly as possible upon signing of the Contract Agreement.

ITC.11.6. The Proposal Security shall be forfeited:

- a) if a Consultant withdraws its Proposals a whole or in part during the period of Proposal validity; or
- b) if the selected Consultant fails to sign the Contract in accordance with ITC. 25:

ITC.11.7. The Proposal Security of a JV must be in the name of the lead member.

## **ITC. 12. Preparation of Proposals**

ITC.12.1. The Proposal, as well as all related correspondence exchanged by the Consultant and DGPC, shall be in English.

ITC.12.2. In preparing their Proposals, Consultants are expected to examine in detail the documents comprising the RFP. Material deficiencies in providing the information requested may result in rejection of a Proposal.

ITC.12.3. While preparing the Technical Proposal, Consultants must pay particular attention to the following:

- a) If a shortlisted Consultant considers that it may enhance its expertise for the assignment by associating with other Consultants in a joint venture/consortium/association or sub-consultancy it may associate with either (a) non-shortlisted Consultant(s), or (b) shortlisted Consultants, if so indicated in the BDS provided such shortlisted consultant is not participating in the bidding process himself as bidder. In the case of a joint venture/consortium/association, all partners shall be jointly and severally liable and shall indicate who will act as the leader of the joint venture/consortium/association. In the case of a joint venture/consortium/association with non-shortlisted Consultant(s), the shortlisted Consultant shall act as joint venture/consortium/association leader.
- b) The estimated number of Professional staff-months or the budget for executing the assignment shall be shown in the BDS, but not both. However, the Proposal shall be based on the number of Professional staff-months or the budget estimated by the Consultant.
- c) For fixed-budget-based assignments, the available budget is given in the BDS, and the Financial Proposal shall not exceed this budget, while the estimated number of Professional staff-months shall not be disclosed.
- d) Alternative professional staff shall not be proposed, and only one curriculum vita (CV) may be submitted for each position.

## **ITC. 13. Technical Proposal, Format and Content**

ITC.13.1. Depending on the nature of the assignment, Consultants are required to submit a Full Technical Proposal (FTP). The BDS indicates the format of the Technical Proposal to be submitted. Submission of the Technical Proposal on format other than prescribed will result in the Proposal being deemed non-responsive.

ITC.13.2. The Technical Proposal shall provide all the information as indicated below using the Forms provided under Section III. Paragraph (c) below indicates the recommended number of pages for the description of the approach, methodology and work plan. A page is considered to be one printed side of A4 or letter size paper.

- a) For the Technical Proposal, a brief description of the Consultant's organization and an outline of the recent experience of the Consultant on assignments of a similar nature is required in Form Tech-3 of Section III. In the case of a joint venture/consortium/association, this information should be provided for each partner. For each assignment, the outline should indicate the names of Sub-Consultants/Professional staff who participated, the duration of the assignment, the Contract amount, and the Consultant's involvement. Information should be provided for all those assignments for which the Consultant was legally contracted as a corporation or as one of the major firms within a joint venture/consortium/association. Assignments completed by individual Professional staff working privately or through other consulting firms cannot be claimed as the experience of the Consultant, or that of the Consultant's associates, but can be claimed by the Professional staff themselves in their CVs. Consultants should be prepared to substantiate the claimed experience if so requested by DGPC.
- b) For the Technical Proposal comments and suggestions on the Terms of Reference including workable suggestions that could improve the quality/effectiveness of the assignment; and on requirements for counterpart staff and facilities including: administrative support, office space, local transportation, equipment, data, etc. to be provided by DGPC (Form Tech-3 of Section III).
- c) A description of the approach, methodology and work plan for performing the assignment and covering the following subjects: technical approach and methodology, work plan, and organization and staffing schedule. Guidance on the content of this section of the Technical Proposals is provided under Form Tech-4 of Section III. The work plan should be consistent with the Work Schedule (Form Tech-8 of Section III), which shall also be provided and which will show in the form of a bar chart the timing proposed for each activity.
- d) The list of the proposed professional staff team by area of expertise, the position that would be assigned to each staff team member, and their tasks (Form Tech-5 of Section III).
- e) CVs of the Professional staff signed by the staff themselves or by the authorized representative of the Professional Staff (Form Tech-6 of Section III). CVs shall be supported by at least two references from past client.
- f) Estimates of the staff input (staff-months of foreign and local professionals) needed to carry out the assignment (Form Tech-7 of Section III). The staff-months input should be indicated separately for home office and field activities, and for foreign and local Professional staff.
- g) A detailed description of the proposed methodology and staffing for training, if the BDS specifies training as a specific component of the assignment.
- h) Any drawings and/or specifications that form part of the Technical Proposal (Form Tech-9 of Section III).
- i) Integrity Pact Statement (Form Tech- 10 of Section III) [if applicable].
- j) Declaration confirming the absence of any conflict of interest (Form Tech-11 of Section III)
- k) Affidavit/Self-Declaration Regarding Eligibility of Bidder (Form Tech-12 of Section III)
- l) Bidder Information Form (Form Tech-13 of Section III)
- m) Performance Evaluation System Acceptance Form (Form Tech-15 of Section III)

ITC.13.3. The Technical Proposal shall not include any financial information. A Technical Proposal containing financial information may be declared non-responsive.

#### **ITC. 14. Financial Proposals**

ITC.14.1. The Financial Proposal shall be prepared using the attached Forms provided under Section IV. The type of contract DGPC shall be awarding shall be specified in BDS. It shall list all costs associated with the assignment, including (a) remuneration for staff (foreign and local, in the field and at the Consultant's home office), and (b) reimbursable expenses indicated in the BDS and (c) taxes payable in the home country of the consultant. If appropriate, these costs should be broken down by activity and, if also appropriate, into foreign and local expenditures. All activities and items described in the Technical Proposal must be priced separately; activities and items described in the Technical Proposal but not priced shall be assumed to be included in the prices of other activities or items.

ITC.14.2. In case of Foreign Consultants (as individual or as a firm), the consultant may express the price of their services in freely convertible currencies, as specified BDS. The Consultants shall state the portion of their price representing local costs in Bhutanese Ngultrum (BTN).

#### **ITC. 15. Evaluation of Technical Proposals**

ITC.15.1. The Evaluation Committee shall evaluate the Technical Proposals on the basis of their responsiveness to the Terms of Reference, applying the evaluation criteria, sub-criteria and points system specified in the BDS. Each responsive Proposal will be given a technical score (St). A Proposal shall be rejected at this stage if it does not respond to important aspects of the RFP, particularly the Terms of Reference, or if it fails to achieve the minimum technical score or any other criteria indicated in the BDS.

ITC.15.2. Following the ranking of Technical Proposals, when selection is based on quality only (QBS), the first ranked Consultant shall be invited to negotiate its proposal for award of Contract in accordance with the instructions given under ITC. 22 of these Instructions. For QCBS the Consultant scoring the highest combined score will be invited to Pre- Award discussion and negotiation. In case of LCS the consultant quoting the least price will be called for Pre-Award discussion and negotiation.

#### **ITC. 16. Taxes**

ITC.16.1. The Consultant may be subject to local taxes (such as value added or sales tax, social charges or income taxes on non-resident Foreign Personnel, duties, fees, levies, etc.) on amounts payable by DGPC under the Contract. DGPC will state in the BDS if the Consultant is subject to payment of any local taxes. Any such amounts shall not be included in the Financial Proposal as they will not be evaluated, but they will be discussed at contract negotiations, and applicable amounts will be included in the Contract.

ITC.16.2. If, after seven (7) days prior to the last date of Bid submission, any law, regulation, ordinance, order or by law having the force of law is enacted, promulgated, abrogated or changed in the Kingdom of Bhutan (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the costs and expenses of the Consultant and/or the Time for Completion, the Contract Price shall be correspondingly increased or decreased, and/or the Time for Completion shall be reasonably adjusted to the extent that the Consultant has thereby been affected in the performance of any of its obligations under the Contract. However, these adjustments would be restricted to direct transactions between DGPC and the Consultant/assignee of Foreign Consultant (if applicable).

## **ITC. 17. Sealing and Submission of Proposal**

- ITC.17.1. The Proposals shall contain no interlineations or overwriting, except as necessary to correct errors made by the Consultant itself. The person who signed the Proposal must initial such corrections. Submission letters for the Technical and Financial Proposals shall respectively be in the format of Form Tech-1 of Section III and Form FIN-1 of Section IV.
- ITC.17.2. An authorized representative of the Consultant shall initial all pages of the Technical and Financial Proposals. The authorization shall be in the form of a written power of attorney accompanying the Proposal. The signed Technical and Financial Proposals shall be marked "Original".
- ITC.17.3. The Technical Proposal shall be marked "Original" or "Copy" as appropriate. The Technical Proposals shall be sent to the addresses provided in the BDS and in the number of copies indicated in the BDS. All required copies of the Technical Proposal are to be made from the original. If there are discrepancies between the original and the copies of the Technical Proposal, the original shall govern.
- ITC.17.4. The original and all copies of the Technical Proposal shall be placed in a sealed envelope clearly marked "Technical Proposal". Similarly, the original Financial Proposal shall be placed in a sealed envelope clearly marked "Financial Proposal" followed by the reference number and name of the assignment, and with a warning "Do Not Open With The Technical Proposal."
- ITC.17.5. The envelopes containing the Technical and Financial Proposals shall be placed into an outer envelope and sealed. This outer envelope shall bear the submission address, reference number and title of the assignment, and be clearly marked.
- ITC.17.6. DGPC shall not be responsible for misplacement, loss or premature opening of the outer envelope if it is not sealed and/or marked as stipulated. This circumstance may be a case for Proposal rejection. If the Financial Proposal is not submitted in a separate sealed envelope duly marked as indicated above, this will constitute grounds for declaring the Proposal non-responsive.
- ITC.17.7. All inner envelopes shall:
- a) be signed across their seals by the person authorized to sign the Proposal on behalf of the Consultant;
  - b) be marked "ORIGINAL" or "COPIES"; and
  - c) indicate the name and address of the Consultant to enable the Proposal to be returned unopened in case it is required to be returned.
- ITC.17.8. All inner and outer envelopes shall be sealed with adhesive or other sealant which will prevent re-opening.
- ITC.17.9. The Proposals shall be delivered by hand or by registered post in sealed envelopes to the address/addresses indicated in the BDS and received by DGPC no later than the time and the date indicated in the BDS or any extension to this date in accordance with ITC.10.3. Any proposal received after the deadline for submission shall be returned unopened.

## **ITC. 18. Withdrawal and Substitution of Proposals**

- ITC.18.1. A Consultant may withdraw or substitute its Proposal after it has been submitted by sending a written notice in accordance with ITC. 17, duly signed by an authorized representative, and shall include a copy of the authorization (the power of attorney) in accordance with ITC.17.2. Any substitution of a Proposal must accompany the respective written substitution notice. All notices must be:

- a) submitted in accordance with ITC. 17 above (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked “Withdrawal” or “Substitution”,
- b) received by DGPC prior to the deadline prescribed for submission of Proposals, in accordance with 0.

ITC.18.2. Proposals requested to be withdrawn in accordance with 0 shall be returned unopened to the Consultants.

ITC.18.3. No Proposal may be withdrawn or substituted in the interval between the deadline for submission of Proposals and the expiry of the period of Proposal validity specified by the Consultant in its Proposal or any extension thereof.

### **ITC. 19. Opening of Proposals**

ITC.19.1. Immediately after the closing date and time for submission of Proposals any envelopes marked “Withdrawal” and accompanied by a properly authorized withdrawal notice shall be put aside, and stored safely and securely ready for return to the Consultant including their Proposal.

ITC.19.2. DGPC then shall open all remaining Technical Proposals, including any substitutions accompanied by a properly authorized substitution notice. The Financial Proposals shall remain sealed and securely stored.

### **ITC. 20. Evaluation to be Confidential**

ITC.20.1. From the time the Proposals are opened to the time the Contract is awarded, the Consultant shall not contact DGPC on any matter related to its Technical and/or Financial Proposal. Any effort by any Consultant to influence DGPC in the examination, evaluation, ranking of Proposals, and recommendation for Award of Contract may result in the rejection of the Consultant’s Proposal.

ITC.20.2. After the opening of Proposals, information concerning the Proposal documents or any part of the contents thereof shall not be released to any person or party that is not a member of the Proposal Evaluation Committee.

ITC.20.3. The evaluation proceedings shall be kept confidential at all times until the award of Contract is announced.

ITC.20.4. Evaluators of Technical Proposals shall have no access to the Financial Proposals until the technical evaluation is concluded and approved by the Competent Authority of DGPC.

### **ITC. 21. Public Opening and Evaluation of Financial Proposals**

*(Applicable only for QCBS, FBS, and LCS)*

ITC.21.1. After the technical evaluation is completed, DGPC shall inform the Consultants who have submitted proposals the technical scores obtained by their Technical Proposals, and shall notify those Consultants whose Proposals did not meet the minimum qualifying mark, or were considered non responsive to the RFP and TOR, that their Financial Proposals will be returned unopened after completing the selection process. DGPC shall simultaneously notify in writing those Consultants that have secured the minimum qualifying mark, the date, time and location for opening the Financial Proposals. The opening date shall allow Consultants sufficient time to make arrangements for attending the opening. Consultants’ attendance at the opening of Financial Proposals is optional.

ITC.21.2. Financial Proposals shall be opened publicly in the presence of the Consultants representatives who choose to attend. The names of the Consultants and their technical scores shall be read

aloud. The Financial Proposals of the Consultants who met the minimum qualifying mark will then be inspected to confirm that they have remained sealed and unopened. These Financial Proposals shall be then opened, and the following information read out and recorded:

- a) name of the Consultant;
- b) points awarded to the Technical Proposal; and
- c) total price of the Financial Proposal.

The prices also shall be written on a notice board for the public to copy.

ITC.21.3. DGPC shall prepare a record of the opening of the Financial Proposals, which shall include the information disclosed to those present in accordance with 0 above. The minutes shall include, as a minimum:

- a) the assignment title and reference number;
- b) the date, time and place of opening of the Financial Proposals;
- c) the prices offered by the Consultant;
- d) the name and nationality of each Consultant;
- e) the names of attendees at the opening of the Financial Proposals, and of the Consultant they represent;
- f) details of any complaints or other comments made by Consultants' representatives attending the opening of the Financial Proposals, including the names and signatures of the representatives making the complaint(s) and/or comment(s); and
- g) the names, designations and signatures of the members of the Proposal Opening Committee or Tender Committee as the case may be.

The Consultants' representatives who are present shall be requested to sign the record. The omission of a representative'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 Consultants who submitted Proposals.

ITC.21.4. The Evaluation Committee will correct any computational errors. When correcting computational errors, in case of any discrepancy between a sub total amount and the total amount, or between words and figures, the formers shall prevail. In addition to the above corrections, activities and items described in the Technical Proposal but not priced shall be assumed to be included in the prices of other activities or items. In case an activity or line item is quantified in the Financial Proposal differently from the Technical Proposal:

- a) if the **Time-Based form of Contract** has been included in the RFP, the Evaluation Committee shall correct the quantification indicated in the Financial Proposal so as to make it consistent with that indicated in the Technical Proposal, apply the relevant unit price included in the Financial Proposal to the corrected quantity and correct the total Proposal cost, and
- b) if the **Lump-Sum form of Contract** has been included in the RFP, no corrections are applied to the Financial Proposal in this respect.

Prices shall be converted to a single currency using the selling rates of exchange, source and date indicated in the BDS.

ITC.21.5. In the case of QCBS, the lowest evaluated Financial Proposal ( $F_m$ ) will be given the maximum financial score ( $S_f$ ) of 100 points. The financial scores ( $S_f$ ) of the other Financial Proposals will be computed as indicated in the BDS. Proposals will be ranked according to their combined technical ( $S_t$ ) and financial ( $S_f$ ) scores using the weights ( $T$  = the weight given to the Technical Proposal;  $P$  = the weight given to the Financial Proposal;  $T + P = 1$ ) indicated in the BDS:  $S = S_t \times T\% + S_f \times P\%$ . The firm achieving the highest combined technical and financial score will be invited for negotiations.

ITC.21.6. **In the case of Fixed-Budget Selection**, DGPC will select the firm that submitted the highest ranked Technical Proposal within the budget. Proposals that exceed the indicated budget will

be rejected. **In the case of Least-Cost Selection**, DGPC will select the lowest proposal among those that passed the minimum technical score. In both cases the evaluated proposal price according to ITC.21.5 shall be considered, and the selected firm invited for negotiations.

ITC.21.7. The Consultants of Bhutan nationality herein after referred to as Domestic Consultant shall be given preferential treatment in award of contract as specified in the BDS. The Domestic Consultant shall provide all evidence to the satisfaction of DGPC to prove that the Consultant meets the criteria to be eligible for a margin of preference in comparison of its Proposal with those of the Consultants who do not qualify for the preference. The preference can be availed provided the Domestic Consultant shall ensure that specific percentage as specified in BDS of the total man hours/ man days deployed should be of a person having Nationality of Bhutan.

ITC.21.8. For the purpose of price preference, the Joint Venture of Domestic Consultant with International Consultant shall be treated as Domestic Bidder provided fifty percent (50%) of the total man hours/man days deployed shall be nationals having Nationality of Bhutan.

## **ITC. 22. Negotiations**

ITC.22.1. Negotiations will be held at the date and address indicated in the BDS. The invited Consultant will, as a pre-requisite for attendance at the negotiations, confirm availability of all Professional staff. Failure to satisfy this requirement may result in DGPC proceeding to negotiate with the next-ranked Consultant. Representatives conducting negotiations on behalf of the Consultant must have written authority to negotiate and conclude a Contract.

ITC.22.2. Technical Negotiations

- a) Negotiations will include a discussion of the Technical Proposal, the proposed technical approach and methodology, work plan, organization and staffing, any suggestions made by the Consultant to improve the Terms of Reference, and the Special Conditions of Contract. DGPC and the Consultant will finalize the Terms of Reference, staffing schedule, work schedule, logistics and reporting. These documents will then be incorporated into the Contract as “Description of Services”. Special attention will be paid to defining clearly the inputs and facilities required from DGPC in order to ensure satisfactory implementation of the assignment. DGPC shall prepare minutes of the negotiations, which shall be signed by DGPC and the Consultant. The negotiations shall not substantially alter the original Terms of Reference or the terms of the Contract.

ITC.22.3. Financial Negotiations

- a) If applicable, it is the responsibility of the Consultant, before starting financial negotiations, to contact the local tax authorities to determine the local tax amount to be paid by the Consultant under the Contract. The financial negotiations will include a clarification (if any) of the Consultant’s tax liability in Bhutan, and the manner in which it will be reflected in the Contract; and will reflect the agreed technical modifications in the cost of the services.
- b) In the cases of QCBS, Fixed-Budget Selection and the Least-Cost Selection methods involving time based Contracts, unless there are exceptional reasons the financial negotiations will involve neither the remuneration rates for staff nor other proposed unit rates. For other methods, Consultants will provide DGPC with the information on remuneration rates.
- c) In the case of a Lump Sum Contract where price is a factor of selection, the price shall not be negotiated.
- d) Reimbursable costs are payable on an actual expense incurred basis, and thus shall not be subject to financial negotiation.

ITC.22.4. Conclusion of Negotiations

- a) Negotiations will conclude with a review of the draft Contract. To complete negotiations, DGPC and the Consultant will initial the agreed Contract. If negotiations fail, DGPC shall inform the Consultant in writing of the reasons for termination of the negotiations and then shall invite the Consultant whose Proposal received the second highest combined technical and financial score in case of QCBS to negotiate a Contract. In case of lump sum and least cost basis the next lowest will be considered. Once negotiations commence with the second ranked Consultant, DGPC shall not reopen the earlier negotiations.

### **ITC. 23. Availability of Professional Staff/Experts**

- ITC.23.1. Before contract negotiations, DGPC will require assurances that the Professional staff will actually be available. DGPC will not consider substitutions during contract negotiations unless both parties agree that undue delay in the selection process makes such substitution unavoidable or for reasons such as death or medical incapacity. If this is not the case and if it is established that Professional staff were offered in the proposal without confirming their availability, the Consultant may be disqualified. Any proposed substitute shall have equivalent or better qualifications and experience than the original candidate and be submitted by the Consultant within the period of time specified in the letter of invitation to negotiate.

### **ITC. 24. DGPC's Right to Accept Any Proposal and to Reject Any or All Proposals**

- ITC.24.1. DGPC reserves the right to accept or reject any Proposal, and to annul the Request for Proposals process and reject all Proposals at any time prior to Contract award, without thereby incurring any liability to Consultants.
- ITC.24.2. DGPC may waive any minor infirmity, non- conformity or irregularity in a bid that does not constitute a material deviation, reservation or omission, whether or not identified by the Bidder in its bid and that does not prejudice or affect the relative ranking of any Bidder as a result of the technical and financial evaluation. DGPC may request the Bidder to submit the necessary information or documentation within a reasonable period of time to rectify non- material deviation or omission in the bid related to the documentation requirements. Such omission shall not be related to any aspect of the price of the bid. Failure of the Bidder to comply with the request may result in the rejection of bid.

### **ITC. 25. Award of Contract**

- ITC.25.1. After completing negotiations DGPC shall award the Contract to the selected Consultant, and as soon as possible notify unsuccessful Consultants after signing of the Contract Agreement with the successful Consultant. .
- ITC.25.2. Following the decision to award the Contract to the selected Consultant, the parties shall enter into a written Contract binding on both parties. The Contract shall be compatible with the Applicable Laws of Bhutan and substantially in the Form B of Section VI of this RFP. The Contract shall be signed by the duly authorized representatives of the parties and shall bear the date of signature.
- ITC.25.3. Where both the parties do not sign the Contract simultaneously,
- a) DGPC shall send to the selected Consultant two original copies of (1) the full agreed Contract and (2) the letter of acceptance (notification of award), each signed by the its duly authorized representative together with the date of signature;
  - b) The letter of acceptance shall indicate the deadline by which it must be accepted, which shall normally be not more than 15 days from the date of its receipt by the Consultant;
  - c) The Consultant, if he agrees to conclude the Contract, shall sign and date all original copies of the Contract and the letter of acceptance and return one copy of each to DGPC before the expiry of the deadline indicated in the letter of acceptance;

- d) In case the selected Consultant fails to sign the Contract agreement within the deadline specified in the letter of acceptance the Contract shall be awarded to the next lowest evaluated Consultant after concluding the negotiations as may be necessary. Such a failure shall be considered as withdrawal and the provisions of 0 shall apply.

ITC.25.4. The Consultant is expected to commence the assignment on the date and at the location specified in the BDS.

#### **ITC. 26. Debriefing by DGPC**

ITC.26.1. On receipt of DGPC's Notification of Award referred to in 0, an unsuccessful bidder has three (3) working days to make a written request to DGPC for a debriefing. DGPC shall provide a debriefing to all unsuccessful bidders whose request has been received within this deadline.

ITC.26.2. Where a request for debriefing has been received within the deadline, DGPC shall provide a debriefing within five (5) working days.

ITC.26.3. DGPC shall discuss only such Bid and not the bids of other competitors. The debriefing shall not include:

- a) point-by-point comparisons with another Bid; and
- b) information that is confidential or commercially sensitive to other Bidders.

ITC.26.4. The Purpose of debriefing is to inform the aggrieved bidder of the reasons for lack of success, pointing out the specific shortcomings in its bid without disclosing contents of other bids.

#### **ITC. 27. Confidentiality**

ITC.27.1. Information relating to evaluation of Proposals and recommendations concerning awards shall not be disclosed to the Consultants who submitted the Proposals or to other persons not officially concerned with the process, until the publication of the award of Contract. The undue use by any Consultant of confidential information related to the process may result in the rejection of its Proposal.

#### **ITC. 28. Performance Evaluation of Consultant**

ITC.28.1. A consultant performance evaluation is a standardized, systematic and objective assessment of a consultant's performance on a specific project contract.

ITC.28.2. The performance evaluation criteria shall be used by each Project Manager/Site Engineer immediately with the commissioning of any services after the award of contract. The contractors shall be evaluated as the work progresses.

ITC.28.3. The Performance Evaluation System for Contractors is at SECTION VIII of this Bidding Document.

ITC.28.4. The Contractor is required to sign and submit the Form TCH15: Performance Evaluation Acceptance along with their bid.

**SECTION III – BID DATA SHEET**

## BID DATA SHEET

The following specific information and data regarding the consultancy services to be procured shall amend, supplement, and take precedence over the corresponding provisions in the Instructions to Consultants (ITC). In the event of any conflict or inconsistency, the provisions set forth in this Bid Data Sheet shall prevail.

ITC Clause Reference	Data
ITC.2.1	Method of selection: <b>Quality and Cost Based Selection (QCBS)</b>
ITC.2.1	Financial Proposal in a separate envelope to be submitted with Technical Proposal: <b>Yes</b>  The name of the assignment is: Preparation of Detailed Project Report (DPR) including Environmental and Social Impact Assessment (ESIA) for Khomachhu Hydropower Project.  Time for completion: <b>12 months</b> from the date of signing of Contract Agreement.
ITC.2.3	DGPC will provide the following inputs and facilities: <b>As specified in the ToR</b>
ITC.7.1	Proposal must remain valid till: <b>September 12, 2025</b>
ITC.8.1	Eligibility of sub-consultant: <b>Applicable</b>
ITC.10.1	Clarifications may be requested not later than: <b>June 29, 2025</b>  Clarifications on Bidding Documents may be obtained from: <b>Sonam Choden</b> Manager, Contracts Section Projects and Contract Department Druk Green Power Corporation Limited Post Box No. 1351 Motithang, Thimphu, Bhutan Tel: +975-2-339875 Email: <a href="mailto:s.choden272@drukgreen.bt">s.choden272@drukgreen.bt</a>  All clarifications shall be in writing and submitted in electronic format (PDF) and sent to the above email.
ITC.10.2	Pre-proposal Meeting: <b>Only if required</b>
ITC.11.1 and ITC.11.2 (d)	Proposal Security shall be: <b>BTN 1.00 million (or equivalent USD at the exchange rate of 1 USD = BTN 87)</b> in the following forms: i) Cash Warrant/Demand Draft/Banker's Cheque ii) Unconditional Bank Guarantee as per FORM TECH-14 issued by a financial institute of Bhutan or any foreign bank acceptable and enforceable in any financial institution of Bhutan iii) Under exceptional case of not meeting i & ii, Bidders shall be allowed to deposit Proposal Security in the form of cash deposit through bank transfer to DGPC Account. The Proposal Security shall be valid till: <b>October 12, 2025</b>
ITC.12.3 (a)	Shortlisted Consultants who are not submitting their own proposal may associate with other shortlisted Consultants: <b>Not Applicable</b>
ITC.12.3 (b)	The estimated number of professional staff-months required for the assignment is:  While this is a Lump sum contract, bidders shall provide cost breakdown indicating number of expert and man-month rate as per FORM FIN-4: <b>Breakdown of Remuneration</b> and FORM FIN-5: <b>Breakdown of Reimbursable Expenses, which shall be paid as per actual.</b>
ITC 13.2 (a)	Participation in the form of a Joint Venture (JV) or Consortium is permitted, subject to the following conditions:

ITC Clause Reference	Data
	<ul style="list-style-type: none"> <li>• Joint Venture/Consortium shall consist of a maximum of two (2) partners.</li> <li>• Qualification requirements may be satisfied either: <ul style="list-style-type: none"> <li>○ solely by the Lead Partner of the Joint Venture/Consortium, or</li> <li>○ collectively by all members of the Joint Venture/Consortium, in which case the qualification criteria will be assessed on a combined basis.</li> </ul> </li> </ul> <p>One of the partners shall be designated as the Lead Partner and shall be authorized to represent and bind the JV/Consortium for the purpose of this assignment. The Lead Partner shall sign the proposal and any contractual obligations resulting from the award of contract on behalf of the JV/Consortium.</p> <p>Furthermore, Sub-consultant for specific task will be permitted, subject to the prior approval of the Client. However, the Lead Partner shall retain full responsibility for the services provided by the sub-consultant.</p>
ITC.13.2 (g)	Training is a specific component of this assignment: <b>Refer ToR</b>
ITC.14.1	Type of Contract: <b>Lump-sum Contract</b> and payment shall be regulated on the performance and achievement of milestones.
ITC.14.2	Financial Proposals <ul style="list-style-type: none"> <li>i) The consultant may express the price of their services in <b>USD/Euro/INR</b> currencies.</li> <li>ii) The Consultants shall state the portion of their price representing local costs in Bhutanese Ngultrum.</li> </ul>
ITC.15.1	For the income received from consulting services rendered in Bhutan, the Consultant is liable to pay local taxes (Business Income Tax) at <b>3%</b> of the Contract Price for International firms and <b>2 %</b> for National firms.
ITC.16.3 & ITC.16.9	The Consultant must submit the original and <b>ONE</b> copy of the Technical Proposal (in case of hard copy), and the original of the Financial Proposal. <p>Proposals to be addressed to and submitted to:  <b>Sonam Choden</b>  Manager, Contracts Section  Projects and Contract Department  Druk Green Power Corporation Limited  Post Box No. 1351  Motithang, Thimphu, Bhutan  Tel: +975-2-339875  Email: <a href="mailto:s.choden272@drukgreen.bt">s.choden272@drukgreen.bt</a></p> Date & Time (Bhutan Time) up to which Proposals will be received: Date: <b>July 14, 2025</b> Time: <b>15:00 Hrs</b>
ITC. 18	The Proposal shall be opened on: Date: <b>July 14, 2025</b> Time (BST): <b>15:30Hrs</b> <p><b>For electronic submission:</b> The password for the Technical Proposal PDF file will be submitted by the Consultant to DGPC through email no later than the specified time for opening of technical proposals. The password for the financial proposal PDF file will not be submitted by the Consultant to DGPC at the time of opening of the technical proposals. However, Bid Security in the form of BG/Demand Draft in original should be submitted to DGPC office before the deadline for submission of Bids.</p>

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	<p>After the technical evaluation is completed, DGPC shall request in writing those Consultants whose technical proposals were considered responsive to the RFP and TOR, and that have achieved the minimum qualifying technical score, to submit the password for the financial proposal PDF file. The password for the financial proposal PDF file will be submitted by the Consultants no later than the specified time on the date of opening of financial proposals notified by DGPC.</p>												
ITC.20.1	<p>Consulting firms shall provide information demonstrating that they have the required qualifications and relevant experience to perform the Services. The criteria and point system for the evaluation of the Technical Proposals shall be as under:</p> <table border="1" data-bbox="391 607 1388 1800"> <thead> <tr> <th data-bbox="391 607 475 645">SN</th> <th data-bbox="475 607 1278 645">Qualifying Criteria</th> <th data-bbox="1278 607 1388 645">Points</th> </tr> </thead> <tbody> <tr> <td data-bbox="391 645 475 1137">1</td> <td data-bbox="475 645 1278 1137"> <p><b>Specific experience of the Consultant (as a firm) relevant to the Assignment</b>            Having successfully completed Detailed Project Reports or Feasibility Studies for hydropower projects in the last ten years (10) years, demonstrating experience in:</p> <ul style="list-style-type: none"> <li>i) Installed capacity of not less than 180 MW</li> <li>ii) Gravity dams (RCC and/or CVC) with heights over 25 m</li> <li>iii) Tunnel lengths over 4 km of which one (1) hydropower project shall be in rock mass with similar geological conditions to the Himalayas</li> <li>iv) Underground caverns of which one (1) hydropower project shall be in rock mass with similar geological conditions to the Himalayas</li> <li>v) International experience in at least three continents outside the firm's own country.</li> </ul> </td> <td data-bbox="1278 645 1388 1137">5</td> </tr> <tr> <td data-bbox="391 1137 475 1507">2</td> <td data-bbox="475 1137 1278 1507"> <p><b>Experience of the consultant with preparation, supervising and monitoring ESIA during the implementation of hydropower projects</b></p> <p>Experience in preparing, supervising and monitoring ESIA implementation for at least 5 large hydropower projects (&gt;180 MW) in the last 10 years meeting ADB/World Bank standards:</p> <ul style="list-style-type: none"> <li>i) Preparation of ESIA</li> <li>ii) Supervision and monitoring of ESIA implementation</li> <li>iii) Cumulative Impact Assessment</li> <li>iv) High-resolution environmental flow assessments</li> </ul> </td> <td data-bbox="1278 1137 1388 1507">5</td> </tr> <tr> <td data-bbox="391 1507 475 1800">3</td> <td data-bbox="475 1507 1278 1800"> <p><b>Adequacy and quality of the proposed methodology, and work plan in responding to the Terms of Reference</b></p> <p>Assessment of methodology, clarity, work plan feasibility, team composition, skills mix, and adequacy of expert inputs</p> <ul style="list-style-type: none"> <li>i) Clarity of Methodology</li> <li>ii) Realistic Work Plan</li> <li>iii) Balanced Team Composition</li> <li>iv) Adequate Expert Inputs</li> </ul> </td> <td data-bbox="1278 1507 1388 1800">25</td> </tr> </tbody> </table>	SN	Qualifying Criteria	Points	1	<p><b>Specific experience of the Consultant (as a firm) relevant to the Assignment</b>            Having successfully completed Detailed Project Reports or Feasibility Studies for hydropower projects in the last ten years (10) years, demonstrating experience in:</p> <ul style="list-style-type: none"> <li>i) Installed capacity of not less than 180 MW</li> <li>ii) Gravity dams (RCC and/or CVC) with heights over 25 m</li> <li>iii) Tunnel lengths over 4 km of which one (1) hydropower project shall be in rock mass with similar geological conditions to the Himalayas</li> <li>iv) Underground caverns of which one (1) hydropower project shall be in rock mass with similar geological conditions to the Himalayas</li> <li>v) International experience in at least three continents outside the firm's own country.</li> </ul>	5	2	<p><b>Experience of the consultant with preparation, supervising and monitoring ESIA during the implementation of hydropower projects</b></p> <p>Experience in preparing, supervising and monitoring ESIA implementation for at least 5 large hydropower projects (&gt;180 MW) in the last 10 years meeting ADB/World Bank standards:</p> <ul style="list-style-type: none"> <li>i) Preparation of ESIA</li> <li>ii) Supervision and monitoring of ESIA implementation</li> <li>iii) Cumulative Impact Assessment</li> <li>iv) High-resolution environmental flow assessments</li> </ul>	5	3	<p><b>Adequacy and quality of the proposed methodology, and work plan in responding to the Terms of Reference</b></p> <p>Assessment of methodology, clarity, work plan feasibility, team composition, skills mix, and adequacy of expert inputs</p> <ul style="list-style-type: none"> <li>i) Clarity of Methodology</li> <li>ii) Realistic Work Plan</li> <li>iii) Balanced Team Composition</li> <li>iv) Adequate Expert Inputs</li> </ul>	25
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	4	<p><b>Key Experts' qualifications and competence for the Assignment</b></p> <p>Evaluation based on minimum qualifications, competence and experience of the nominated Key Experts in accordance with the Terms of Reference:</p> <table border="1" data-bbox="491 461 1275 1384"> <thead> <tr> <th>Expert Position</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td colspan="2"><b>A. International Experts (Technical)</b></td> </tr> <tr> <td>Hydropower Expert / Project Manager</td> <td>K-1</td> </tr> <tr> <td>Hydrology and Sediment Expert</td> <td>K-2</td> </tr> <tr> <td>Seismic Expert</td> <td>K-3</td> </tr> <tr> <td>Dam Expert</td> <td>K-4</td> </tr> <tr> <td>Hydraulic Expert</td> <td>K-5</td> </tr> <tr> <td>Structural Engineer</td> <td>K-6</td> </tr> <tr> <td>Engineering Geologist</td> <td>K-7</td> </tr> <tr> <td>Hydro-Mechanical Expert</td> <td>K-8</td> </tr> <tr> <td>Electro-Mechanical Expert</td> <td>K-9</td> </tr> <tr> <td>Construction Method, Equipment Planning and Scheduling Expert</td> <td>K-10</td> </tr> <tr> <td>Cost Estimator</td> <td>K-11</td> </tr> <tr> <td>Power Market Expert</td> <td>K-12</td> </tr> <tr> <td>Economic and Financial Analyst</td> <td>K-13</td> </tr> <tr> <td colspan="2"><b>B. International Experts (ESIA)</b></td> </tr> <tr> <td>Environment Specialist (Lead ESIA Coordinator)</td> <td>K-14</td> </tr> <tr> <td>Social Development Specialist (Co-Team Leader)</td> <td>K-15</td> </tr> <tr> <td>Environmental Flow Specialist</td> <td>K-16</td> </tr> <tr> <td>Aquatic &amp; Riparian Biodiversity Specialist</td> <td>K-17</td> </tr> <tr> <td>Terrestrial Biodiversity Specialist</td> <td>K-18</td> </tr> <tr> <td>Climate Change Expert</td> <td>K-19</td> </tr> <tr> <td colspan="2"><b>C. National Experts (ESIA)</b></td> </tr> <tr> <td>Environment Specialist (Country Focal Point)</td> <td></td> </tr> <tr> <td>Biodiversity Expert</td> <td></td> </tr> <tr> <td>Social Expert</td> <td></td> </tr> </tbody> </table> <p>Evaluation based on sub-criteria:</p> <ul style="list-style-type: none"> <li>• General Qualifications (25%)</li> <li>• Adequacy for the Assignment (75%)</li> <li>• For K-3 (Seismic Expert) &amp; K-7 (Engineering Geologist), adequacy includes additional weighting for Himalayan/Alpine/Andean experience.</li> </ul>	Expert Position	Code	<b>A. International Experts (Technical)</b>		Hydropower Expert / Project Manager	K-1	Hydrology and Sediment Expert	K-2	Seismic Expert	K-3	Dam Expert	K-4	Hydraulic Expert	K-5	Structural Engineer	K-6	Engineering Geologist	K-7	Hydro-Mechanical Expert	K-8	Electro-Mechanical Expert	K-9	Construction Method, Equipment Planning and Scheduling Expert	K-10	Cost Estimator	K-11	Power Market Expert	K-12	Economic and Financial Analyst	K-13	<b>B. International Experts (ESIA)</b>		Environment Specialist (Lead ESIA Coordinator)	K-14	Social Development Specialist (Co-Team Leader)	K-15	Environmental Flow Specialist	K-16	Aquatic & Riparian Biodiversity Specialist	K-17	Terrestrial Biodiversity Specialist	K-18	Climate Change Expert	K-19	<b>C. National Experts (ESIA)</b>		Environment Specialist (Country Focal Point)		Biodiversity Expert		Social Expert	
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		<p><b>100</b></p>																																																				

ITC Clause Reference	Data
	<p>The evaluation of the Technical Proposals shall be carried out in accordance with the criteria, sub-criteria, and point allocations specified in this RFP.</p> <p>The point allocations, detailed sub-criteria for point award, and the specific requirements for submission of documentary evidence (such as certificates, contracts, CVs, and supporting documents) are provided in the Annexure – I to this Bid Data Sheet.</p> <p>The Evaluation Committee will assess each proposal based solely on the information provided in the submitted proposals and supporting documents. Failure to provide complete and verifiable documentary evidence may result in the affected part of the proposal receiving no score.</p> <p><b>Technical Scoring and Minimum Qualification Threshold</b></p> <p>The total points obtained by each Consulting firm through the technical evaluation, based on the criteria and sub-criteria detailed in this RFP, shall constitute the Technical Score (St).</p> <p>The minimum Technical Score (St) required to qualify for Financial Proposal opening is 80 points out of 100.</p> <p>Only proposals that achieve a Technical Score equal to or higher than 80 points shall proceed to the Financial Evaluation stage. Proposals scoring less than 80 points shall be considered non-responsive and shall not be further evaluated.</p>
ITC.21.2	<p>Following the completion of the evaluation of the Technical Proposals, DGPC will notify the technically qualified Consultants of the location, date and time of the public opening of Financial Proposals.</p> <p>Any interested party who wishes to attend this public opening should contact Head, Contracts Section, E-mail: <a href="mailto:s.choden272@drukgreen.bt">s.choden272@drukgreen.bt</a> and request to be notified of the location, date and time of the public opening of Financial Proposals. The request should be made before the deadline for submission of Proposals, stated above.</p>
ITC.21.4	<p>The single currency for price conversions is Bhutanese Ngultrum (BTN).</p> <p>The official source of the selling exchange rates is: <b>Rates published by the Royal Monetary Authority (RMA), Bhutan.</b></p> <p>The date of exchange rates is: <b>28 days prior to submission of proposals.</b></p>
ITC.21.5	<p><b>The lowest evaluated Financial Proposal (Fm) is given the maximum financial score (Sf) of 100.</b></p> <p>The formula for determining the financial scores (Sf) of all other Proposals is as following:</p> <p><b><math>Sf = 100 \times Fm / F</math></b></p> <p>Where: “Sf” is the financial score,  “Fm” is the lowest price, and  “F” is the price of the proposal under consideration</p> <p>The weights given to the Technical (T) and Financial (P) Proposals are:</p>

ITC Clause Reference	Data
	<p><b>T = 90%, and P = 10%</b></p> <p>Proposals are ranked according to their combined technical (St) and financial (Sf) scores using the weights (T = the weight given to the Technical Proposal; P = the weight given to the Financial Proposal; T + P = 1) as following:</p> <p><b>S = St x T% + Sf x P%</b></p>
ITC.21.7	Preferential treatment for Domestic Bidder: <b>Not Applicable</b>
ITC.22.1	Expected date and address for contract negotiations: <b>Mutually agreed date and time</b>
ITC.25.4	Expected date for commencement of consulting services: <b>Date of signing of Contract Agreement</b>

## Annexure I - Technical Evaluation Criteria, Sub-Criteria, and Scoring Methodology

### 1. Qualifying Criteria – Firm’s Relevant Experience (Maximum 5 Points)

The Consultant’s specific experience relevant to the assignment shall be evaluated based on successfully completed Detailed Project Reports (DPR) or Feasibility Studies for hydropower projects completed in the last ten (10) years, demonstrating the following:

SN	Criteria	Maximum Points
1.1	Installed capacity of not less than 180 MW	1.50
1.2	Gravity dams (RCC and/or CVC) with heights over 25 m	1.50
1.3	Tunnel lengths over 4 km, of which at least one (1) hydropower project shall be located in rock masses with geological conditions similar to the Himalayas	1.00
1.4	Underground caverns, of which at least one (1) hydropower project shall be located in rock masses with geological conditions similar to the Himalayas	0.50
1.5	International experience in at least three (3) continents outside the firm’s country of registration	0.50

#### Sub-Criteria – Number of Relevant Projects Completed (applicable to each individual criterion)

Number of Projects (per criterion)	Points Awarded (pro-rata)
More than 3 projects	100% of the maximum points for that criterion
2 projects	60% of the maximum points for that criterion
1 project	20% of the maximum points for that criterion

*Note: The Consultant may submit different projects to meet each of the above criteria.*

#### Documentary Evidence Requirement

Completion Certificate(s) and Contract Agreement(s) issued by the respective Employer(s) shall be provided as documentary evidence of having successfully completed similar assignments. Proposals without sufficient documentary evidence may be considered non-responsive for that particular criterion.

### 2. Qualifying Criteria – Consultant’s Experience in Environmental and Social Impact Assessment (Maximum 5 Points)

The Consultant’s experience in preparation, or supervision and monitoring of Environmental and Social Impact Assessment (ESIA) during the implementation of hydropower projects shall be evaluated based on assignments completed in the last fifteen (15) years, demonstrating the following:

SN	Criteria	Maximum Points
2.1	Preparation of ESIA reports meeting ADB, World Bank, or other international lender standards for large hydropower projects (>180 MW)	1.50
2.2	Experience with supervision and monitoring of ESIA implementation for hydropower projects	1.50
2.3	Experience in conducting cumulative impact assessments for hydropower projects	1.00
2.4	Experience with high-resolution environmental flow (e-flow) assessments for hydropower projects	1.00

#### Sub-Criteria – Number of Relevant Projects Completed (applicable to each individual criterion)

Number of Projects (per criterion)	Points Awarded (pro-rata)
More than 3 projects	100% of the maximum points for that criterion

2 projects	60% of the maximum points for that criterion
1 project	20% of the maximum points for that criterion

*Note: The Consultant may submit different projects to meet each of the above criteria.*

#### **Documentary Evidence Requirement:**

Completion Certificate(s) and Contract Agreement(s) issued by the respective Employer(s) shall be provided as documentary evidence of having successfully completed similar assignments. Proposals without sufficient documentary evidence may be considered non-responsive for that particular criterion.

### **3. Adequacy and Quality of Proposed Methodology and Work Plan (Maximum 25 Points)**

The Client will evaluate the Consultant's understanding of the Terms of Reference (ToR), adequacy of the proposed approach, methodology, work plan, and allocation of resources based on the following criteria:

SN	Criteria	Maximum Points
3.1	Clarity, completeness, and coherence of the proposed methodology in line with the Terms of Reference	13
3.2	Realistic work plan and implementable schedule	8
3.3	Balanced team composition and appropriate skills mix	2
3.4	Adequacy of input allocation for Key Experts in the proposed work plan	2

The Client will assess:

- Whether the proposed methodology fully addresses the scope and objectives of the Terms of Reference;
- The logical consistency of the approach and the proposed technical solutions;
- The feasibility of the implementation schedule and resource allocation;
- The appropriateness and balance of the proposed team composition;
- The sufficiency of expert inputs allocated for each activity.

### **4. Key Experts' Qualifications and Competence for the Assignment (Maximum 60 Points)**

The qualifications and competence of the proposed Key Experts will be evaluated based on the following structure. Key Experts shall be nominated in accordance with the Terms of Reference (ToR). Each expert's CV shall be submitted using Form TECH-6.

#### **Breakdown of Key Experts Positions**

Group	Expert Position	Code	Maximum Points
<b>A. International Experts (Technical)</b>			<b>42</b>
	Hydropower Expert / Project Manager	K-1	5
	Hydrology and Sediment Expert	K-2	3
	Seismic Expert	K-3	3
	Dam Expert	K-4	5
	Hydraulic Expert	K-5	5
	Structural Engineer	K-6	5
	Engineering Geologist	K-7	5
	Hydro-Mechanical Expert	K-8	2
	Electro-Mechanical Expert	K-9	2
	Construction Method, Equipment Planning and Scheduling Expert	K-10	2

	Cost Estimator	K-11	2
	Power Market Expert	K-12	1
	Economic and Financial Analyst	K-13	2
<b>B. International Experts (ESIA)</b>			<b>15</b>
	Environment Specialist (Lead ESIA Coordinator)	K-14	4
	Social Development Specialist (Co-Team Leader)	K-15	3
	Environmental Flow Specialist	K-16	2
	Aquatic & Riparian Biodiversity Specialist	K-17	2
	Terrestrial Biodiversity Specialist	K-18	2
	Climate Change Expert	K-19	2
<b>C. National Experts (ESIA)</b>			<b>3</b>
	Environment Specialist (Country Focal Point)		1
	Biodiversity Expert		1
	Social Expert		1

### Evaluation Sub-Criteria and Weighting

#### i) For All Experts (except Technical K-3 and K-7)

Criteria	Weight (%)
<b>1. General Qualifications (25%)</b>	
i. General education and training (Degree: 4%, Master: 4.5%, PhD: 5%)	5
ii. General experience (as per minimum experience requirements specified below)	15
iii. Years with the firm (5 years: 4%; 6-8 years: 4.5%; >8 years: 5%)	5
<b>2. Adequacy for the Assignment (75%)</b>	
i. Specific experience relevant to assignment	15
ii. Number of similar assignments completed (3+: 60%, 2: 45%, 1: 35%)	60

- For experts with 10-year minimum experience (K-2, K-4 to K-13 and ESIA K-3 to K-7 & National Experts):
  - 10–15 years: 13%
  - 15–20 years: 14%
  - 20 years: 15%
- For experts with 15-year minimum experience (Technical K-1 and ESIA K-14, K-15):
  - 15–20 years: 13%
  - 20–25 years: 14%
  - 25 years: 15%

#### ii) For Technical Experts K-3 (Seismic) and K-7 (Engineering Geologist)

Criteria	Weight (%)
<b>1. General Qualifications (25%)</b>	
i. General education and training (Degree: 4%, Master: 4.5%, PhD: 5%)	5
ii. General experience (as per minimum experience requirements specified below)	15
iii. Years with the firm (5 years: 4%; 6-8 years: 4.5%; >8 years: 5%)	5
<b>2. Adequacy for the Assignment (75%)</b>	
i. Specific experience relevant to assignment	10
ii. Number of similar assignments completed (3+: 40%, 2: 35%, 1: 25%)	40
iii. Experience in Himalayan Geology/Region (3+: 25%, 2: 20%, 1: 15%)	25

For Seismic Expert (K-3, 10-year minimum experience):

- 10–15 years: 13%
- 15–20 years: 14%
- >20 years: 15%

For Engineering Geologist (K-7, 15-year minimum experience):

- 15–20 years: 13%
- 20–25 years: 14%
- >25 years: 15%

*Note: The qualification requirements for each expert shall be documented using Form TECH-6. Documentary evidence (educational degrees, professional certifications, reference letters, signed CV's, etc.) must be provided for evaluation.*

### Special Notes Regarding Key Experts

#### i) Evaluation of Key Experts

- Only the Key Expert positions listed in the Technical Evaluation Criteria will be evaluated and scored.
- All proposed Key Experts must meet the minimum qualification and experience requirements as specified in the Terms of Reference (ToR).
- The CVs of all proposed Key Experts must be submitted in the prescribed format (Form TECH-6) and must be duly signed by the individual Key Expert.

#### ii) Non-Compliance with Minimum Qualification Requirements

- In the event that any proposed Key Expert does not meet the minimum qualification requirements specified in the ToR, but the Consultant nevertheless obtains the highest combined technical and financial score, the Consultant shall, as a condition of contract award:
  - Replace the unqualified expert with an expert who fully meets the required qualifications for the position as per the ToR;
  - Submit the CV and supporting documents of the replacement expert for review and approval by the Client prior to contract signing.

#### iii) Replacement of Key Experts after Submission

- In case of death or certified medical incapacity of any proposed Key Expert after submission of the proposal but prior to contract signing, the Consultant shall:
  - Nominate a replacement expert with equal or superior qualifications and experience meeting all the eligibility requirements specified in the ToR.
  - Obtain prior written approval from the Client for the proposed replacement.
- Replacement requests for any other reason will only be considered at the sole discretion of the Client, and subject to the same qualification requirements.

### 5. Software, Transfer of Knowledge and Capacity Building Program (Maximum 5 Points)

The Consultant's proposal for training, knowledge transfer, and capacity building of DGPC staff in the preparation of Detailed Project Reports (DPR) for hydropower projects will be evaluated on the following criteria:

SN	Criteria	Maximum Points
5.1	Proposed software tools and applications to be used for trainings	1
5.2	Quality and comprehensiveness of the proposed capacity building training program	1
5.3	Approach and methodology for delivery of training sessions	1
5.4	Adequacy of expert inputs allocated for the training sessions	1
5.5	Appropriateness of the proposed training timeline and schedule	1

*Note: The assessment will focus on the appropriateness, practicality, and sustainability of the proposed training program and software, as well as the adequacy of resource allocation to ensure effective capacity building of DGPC personnel.*

## **6. Additional Evaluation Notes and Requirements**

### **i) Documentary Evidence for Firm's Experience**

- Consulting firms must provide information and documentation demonstrating that they have the required qualifications and relevant experience to perform the services.
- For all assignments listed under the firm's specific experience, the Consultant shall submit completion certificates and/or contract agreements issued by the respective clients as documentary evidence of successful completion of design and engineering services.
- All documents must be duly certified by the issuing agency or client.

### **ii) Documentary Evidence for Key Experts**

- For each Key Expert, the Consulting firm shall provide complete curriculum vitae (CV) using the format provided in Form TECH-6.
- The CVs must be signed by both the expert and an authorized representative of the Consulting firm.
- The qualifications and competence of each expert shall fully comply with the minimum qualification requirements specified for each position in the Terms of Reference (ToR).
- If any proposed Key Expert does not meet the minimum qualification requirements but the firm still achieves the highest combined technical and financial score, the firm shall replace the unqualified expert with a qualified replacement who fully meets the ToR requirements, prior to contract signing.

**SECTION IV – PROPOSAL FORMS**

## A - TECHNICAL PROPOSAL FORMS

### FORM TECH-1: Technical Proposal Submission

[Location, Date]

To: [Name and address of DGPC]

Dear Sirs:

We, the undersigned, offer to provide the Consulting Services for [Insert title of assignment] in accordance with your Request for Proposal dated [Insert Date] and our Proposal. We are hereby submitting our Proposal, which includes this Technical Proposal, and a Financial Proposal sealed in a separate envelope\*.

We are submitting our Proposal in association with: [Insert a list with full name and address of each associated Consultant] \*\*

We hereby declare that all the information and statements made in this Proposal are true and accept that any misrepresentation contained in it may lead to our disqualification. In this regard you may contact any of our previous Employers or the previous Employers of any of our sub-consultants or any of the employees thereof for further information.

If negotiations are held during the period of validity of the Proposal, i.e., before the date indicated in 0, we undertake to negotiate on the basis of the proposed staff. Our Proposal is binding upon us and subject to the modifications resulting from Contract negotiations.

We undertake, if our Proposal is accepted, to commence the Consulting Services related to the assignment not later than the date indicated in 0 and to comply with all the provisions of the Contract.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature [In full and initials]: \_\_\_\_\_

Name and Title of Signatory: \_\_\_\_\_

Name of Firm: \_

Address: \_\_\_\_\_

\* [In case the BDS requires submission of a Technical Proposal only, replace this sentence with: "We are hereby submitting our Proposal, which includes this Technical Proposal only."]

\*\* [Delete in case no association is foreseen.]

## FORM TECH-2: Consultant's Organization and Experience

### A- Consultant's Organization

*[Provide here a brief (two pages) description of the background and organization of your firm/entity and each associate for this assignment.]*

### B- Consultant's Experience

*[Using the format below, provide information on each assignment for which your firm, and each associate for this assignment, was legally contracted either individually as a corporate entity or as one of the major companies within an association, for carrying out consulting services similar to the ones requested under this assignment. Use 20 pages maximum, listing in the order of most recent first]*

*Details of previous assignments:*

Assignment name:	Approx. value of the contract (in BTN):
Procuring Agency:	Duration of assignment (months):
Address	Total number of staff months of the assignment:
	Approximate value of the services provided by your firm under the contract (BTN):
Start date (month/year): Completion date (month/year):	Number of professional staff-months provided by associated Consultants:
Name of associated Consultants, if any:	Name of senior professional staff of your firm involved and functions performed (indicate most significant profiles such as Project Director/Coordinator, Team Leader)
Narrative description of Project:	
Description of actual services provided by your staff within the assignment:	

Firm's Name:

**FORM TECH-3: Comments/Suggestions on the Terms of Reference and on Counterpart Staff & Facilities to be provided by DGPC**

**A –On the Terms of Reference**

*[Present and justify here any modifications or improvement to the Terms of Reference you are proposing to improve performance in carrying out the assignment (such as deleting some activity you consider unnecessary, or adding another, or proposing a different phasing of the activities). Such suggestions should be concise and to the point, and incorporated in your Proposal]*

**B - On Counterpart Staff and Facilities**

*[Comment here on counterpart staff and facilities to be provided by DGPC including: administrative support, office space, local transportation, equipment, data, etc.]*

## FORM TECH-4: Description of Approach, Methodology and Work Plan

*[Technical approach, methodology and work plan are key components of the Technical Proposal. You are suggested to present your Technical Proposal (40 pages, inclusive of charts and diagrams) divided into the following three chapters:*

- a) Technical Approach and Methodology. In this chapter you should explain your understanding of the objectives of the assignment, approach to the services, methodology for carrying out the activities and obtaining the expected output, and the degree of detail of such output. You should highlight the problems being addressed and their importance, and explain the technical approach you would adopt to address them. You should also explain the methodologies you propose to adopt and highlight the compatibility of those methodologies with the proposed approach.*
- b) Work Plan. In this chapter you should propose the main activities of the assignment, their content and duration, phasing and interrelations, milestones (including interim approvals by DGPC), and delivery dates of the reports. The proposed work plan should be consistent with the technical approach and methodology, showing understanding of the TOR and ability to translate them into a feasible working plan. A list of the final documents, including reports, drawings and tables to be delivered as final output, should be included here. The work plan should be consistent with the Work Schedule of Form TECH 8: Work Schedule.*
- c) Organization and Staffing. In this chapter you should propose the structure and composition of your team. You should list the main disciplines of the assignment, the key expert responsible, and proposed technical and support staff]*

**FORM TECH-5: Team Composition and Task Assignment**

Note 1: If any of the Personnel included in the team being present or previous government employees the certificate as per requirement of ITC.3.3 to be attached with the Format.

Note 2: If any of the Personnel included in the team is any former DGPC employee, the certificate as required under ITC.3.4 should be given for such employee and attached to this format.

<i>Professional Staff</i>				
<b>Name of Staff</b>	<b>Firm</b>	<b>Area of Expertise</b>	<b>Position Assigned</b>	<b>Task Assigned</b>

**FORM TECH-6: CV for Proposal Professional Staff**

1. **Proposed Position** [only one candidate shall be nominated for each position]: \_\_\_\_\_
2. **Name of Firm** [Insert name of firm proposing the staff]: \_\_\_\_\_
3. **Name of Staff** [Insert full name]: \_\_\_\_\_
4. **Date of Birth:** \_\_\_\_\_ **Nationality:** \_\_\_\_\_
5. **Education** [Indicate college/university and other specialized education of staff member, giving names of institutions, degrees obtained, and dates of obtainment]: \_\_\_\_\_
6. **Membership of Professional Associations:** \_\_\_\_\_
7. **Other Training** [Indicate significant training since degrees under 5 - Education were obtained]: \_\_\_\_\_
8. **Countries of Work Experience:** [List countries where staff has worked in the last ten years]: \_\_\_\_\_
9. **Languages** [For each language indicate proficiency: good, fair, or poor in speaking, reading, and writing]: \_\_\_\_\_
10. **Employment Record** [Starting with present position, list in reverse order every employment held by staff member since graduation, giving for each employment (see format here below): dates of employment, name of employing organization, positions held.]: \_\_\_\_\_

From [Year]: \_\_\_\_\_ To [Year]: \_\_\_\_\_

Employer: \_\_\_\_\_

Positions held: \_\_\_\_\_

<p><b>11. Detailed Tasks Assigned</b> [List all tasks to be performed under this assignment]</p>	<p><b>12. Work Undertaken that Best Illustrates Capability to Handle the Tasks Assigned</b> [Among the assignments in which the staff has been involved, indicate the following information for those assignments that best illustrate staff capability to handle the tasks listed under point 11 The details should be furnished at least for two assignments that is best related to the present assignment]</p> <p>Assignment 1. Name of assignment or project: _____ Year: _____ Location: _____ Procuring Agency or Client: _____ Main project features: _____ Positions held: _____ Activities performed: _____</p> <p><u>Assignment 2.</u> Name of assignment or project: _____ Year: _____ Location: _____ Procuring Agency or Client: _____ Main project features: _____ Positions held: _____ Activities performed: _____</p>
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**13. Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications and my experience. I understand that any willful misstatement herein may lead to my disqualification or dismissal, if engaged.

\_\_\_\_\_  
[Signature of staff member or authorized representative of the staff]

Date: \_\_\_\_\_  
Day/Month/Year

Full name of authorized representative: \_\_\_\_\_

**FORM TECH-7: Staffing Schedule**

N°	Name of Staff*	Staff input (in the form of a bar chart)**													Total staff-month input			
		1	2	3	4	5	6	7	8	9	10	11	12	n	Home	Field***	Total	
<b>Foreign</b>																		
1		[Home]																
		[Field]																
2																		
N																		
													<b>Subtotal</b>		1.1.1.1			
<b>Local</b>																		
1		[Home]																
		[Field]																
2																		
N																		
													<b>Subtotal</b>		1.1.1.1			
													<b>Total</b>					

\* For Professional Staff the input should be indicated individually; for Support Staff it should be indicated by category (e.g.: draftsmen, clerical staff, etc.).

\*\* Months are counted from the start of the assignment. For each staff indicate separately staff input for home and field work.

\*\*\* Field work means work carried out at a place other than the Consultant's home office.

Full time input  
 Part time input

**FORM TECH-8: Work Schedule**

N o	Activity <sup>1</sup>	Months <sup>2</sup>												
		1	2	3	4	5	6	7	8	9	10	11	12	n
1														
2														
3														
4														
5														
n														

- 1 Indicate all main activities of the assignment, including delivery of reports (e.g.: inception, interim, and final reports), and other benchmarks such as DGPC approvals. For phased assignments indicate activities, delivery of reports, and benchmarks separately for each phase.
- 2 Duration of activities shall be indicated in the form of a bar chart.

**FORM TECH-9: Drawing/ Specifications (if applicable)**

*[Provide here a list of drawings and specifications (if any) contained within the Technical Proposal, and annex these hereto]*

## FORM TECH-10: Integrity Pact Statement

(Attach an integrity pact statement pre-signed by DGPC and Consultant to submit the same after it is executed by the authorised signatory of the Consultant)

*[Integrity Pact Statement pre-signed by the DGPC authorised signatory, as provided by the Anti-Corruption Commission (ACC of the Royal Government of Kingdom of Bhutan from time to time is to be used.)]*

### 1. General:

Whereas *(Name of head of the procuring agency or his/her authorized representative, with power of attorney)* representing the *(Name of procuring agency)*, Druk Green Power Corporation Limited, hereinafter referred to as the “**Employer**” on one part, and *(Name of bidder or his/her authorized representative, with power of attorney)* representing M/s. *(Name of firm)*, hereinafter referred to as the “**Bidder**” on the other part hereby execute this agreement as follows:

- 1.1. This agreement shall be a part of the standard bidding document, which shall be signed by both the parties at the time of purchase of bidding documents and submitted along with the tender document. This IP is applicable only to “**large**” scale works, goods and services, the threshold of which will be announced by the government from time to time. The signing of the IP shall not apply to framework contracting such as annual office supplies etc.

### 2. Objectives:

Whereas, the Employer and the Bidder agree to enter into this agreement, hereinafter referred to as IP, to avoid all forms of corruption or deceptive practice by following a system that is fair, transparent and free from any influence/unprejudiced dealings in the **bidding process**<sup>1</sup> and **contract administration**<sup>2</sup>, with a view to:

- 2.1. Enabling the Employer to obtain the desired contract at a reasonable and competitive price in conformity to the defined specifications of the works or goods or services; and
- 2.2. Enabling bidders to abstain from bribing or any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also refrain from bribing and other corrupt practices.

### 3. Scope:

The validity of this IP shall cover the bidding process and contract administration period.

### 4. Commitments of the Employer:

The Employer Commits itself to the following:

- 4.1. The Employer hereby undertakes that no officials of the Employer, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favor or any material or immaterial benefit or any other advantage from the Bidder, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process and contract administration.
- 4.2. The Employer further confirms that its officials shall not favor any prospective bidder in any form that could afford an undue advantage to that particular bidder in the bidding process and contract administration and will treat all Bidders alike.

---

<sup>1</sup> Bidding process, for the purpose of this IP, shall mean the procedures covering tendering process starting from bid preparation, bid submission, bid processing, and bid evaluation.

<sup>2</sup> Contract administration, for the purpose of this IP, shall mean contract award, contract implementation, unauthorized sub-contracting and contract handing/taking over.

4.3. Officials of the Employer, who may have observed or noticed or have reasonable suspicion shall report to the head of the employing agency or an appropriate government office any violation or attempted violation of clauses 4.1 and 4.2.

4.4. Following report on violation of clauses 4.1 and 4.2 by official (s), through any source, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings shall be initiated by the Employer and such a person shall be debarred from further dealings related to the bidding process and contract administration.

#### **5. Commitments of Bidders**

The Bidder commits himself/herself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of the bidding process and contract administration in order to secure the contract or in furtherance to secure it and in particular commits himself/herself to the following :

5.1. The Bidder shall not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favor, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the Employer, connected directly or indirectly with the bidding process and contract administration, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding process and contract administration.

5.2. The Bidder shall not collude with other parties interested in the contract to manipulate in whatsoever form or manner, the bidding process and contract administration.

5.3. If the bidder(s) have observed or noticed or have reasonable suspicion that the provisions of the IP have been violated by the procuring agency or other bidders, the bidder shall report such violations to the head of the procuring agency.

#### **6. Sanctions for Violation:**

The breach of any of the aforesaid provisions shall result in administrative charges or penal actions as per the relevant rules and laws.

6.1. The breach of the IP or commission of any offence (forgery, providing false information, misrepresentation, providing false/fake documents, bid rigging, bid steering or coercion) by the Bidder, or any one employed by him, or acting on his/her behalf (whether with or without the knowledge of the Bidder), shall be dealt with as per the terms and conditions of the contract and other provisions of the relevant laws, including De-barment Rules.

6.2. The breach of the IP or commission of any offence by the officials of the procuring agency shall be dealt with as per the rules and laws of the land in vogue.

#### **7. Monitoring and Administration:**

7.1. The respective procuring agency shall be responsible for administration and monitoring of the IP as per the relevant laws.

7.2. The bidder shall have the right to appeal as per the arbitration mechanism contained in the relevant rules.

We, hereby declare that we have read and understood the clauses of this agreement and shall abide by it.

The parties hereby sign this Integrity Pact at (*place*) \_\_\_\_\_ on (*date*) \_\_\_\_\_



Affix  
Legal  
Stamp

EMPLOYER

CID : 

1	1	5	0	6	0	0	6	2	2	6
---	---	---	---	---	---	---	---	---	---	---

BIDDER/REPRESENTATIVE

CID : 

--	--	--	--	--	--	--	--	--	--	--

Witness:

Witness: \_\_\_\_\_

Name: Sushmita Gurung

CID : 

1	1	2	0	2	0	0	0	2	4	2
---	---	---	---	---	---	---	---	---	---	---

Name:

CID : 

--	--	--	--	--	--	--	--	--	--	--

**FORM TECH-11: Declaration confirming the absence of any conflict of interest**

**Subject:** Declaration confirming the absence of any conflict of interest  
**Ref:**

I .....*[insert the name and designation of the signatory]*..... the duly authorized representative of .....*[insert name of the Bidder]*, submitting a proposal in respect of invitation for proposals reference number (-----), hereby confirm:

- that I/We do not have a business relationship with a member of DGPC’s staff who is directly or indirectly involved in any part of (i) the preparation of the Terms of Reference of the assignment, (ii) the selection process for such assignment, and/or (iii) supervision of the Contract,
- that I/ We have not employed or otherwise engaged a spouse, or any of the dependent parent of an employee or close relative<sup>3</sup> of DGPC employee
- *(insert if applicable)*that I/ We confirm that we have nominated *(insert name)*former employee of DGPC as personnel in the Technical Proposal and we certify that no conflict of interest exists in the scope of the MR. XYZ inclusion to provide the Consultancy Services.
- *(insert if applicable)*that I / we have nominated *(insert name)*, present or previous *(insert as applicable)* Royal government of Bhutan employee as Personnel in the Technical Proposal. *(Insert name)* have written certification from the Royal Civil Service Commission of Bhutan or their employer *(insert name of the employer)* confirming that
  - They are not current employees of their previous official employer.
  - They are on leave without pay from their official position, and
  - They are allowed to work full-time outside of their previous official position

Such certification is also attached as a part of this technical proposal.

**Sealed and Signed**

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<sup>3</sup>relative is defined as immediate family which includes, brother, sister, and own children

**FORM TECH-12: Affidavit/Self- Declaration Regarding Eligibility of Bidder on the judicial stamp paper of requisite value**

*(To be executed on non-judicial stamp paper)*

I .....*[insert the name and designation of the signatory]*..... the duly authorized representative of .....*[insert name of the Bidder]*..... hereby confirm that I possess the legal authority to make this Affidavit/ Declaration on behalf of the Bidder.

I solemnly declare and affirm that to the best of my knowledge, information, and belief, the above Bidder:

- a) Is not insolvent or is not in receivership or is not a bankrupt or is not in the process of being wound up, or has not entered into an arrangement with creditors; or
- b) Affairs are not are being administered by a court, judicial officer or appointed liquidator; or
- c) Has not suspended business or is not in any analogous situation arising from similar procedures under the laws and regulations of his country of establishment; or
- d) Have not been found guilty of professional misconduct by any competent authority as per law; or
- e) Have fulfilled the obligations with regard to the payment of taxes, social security or other payments due in accordance with the laws of the country in which the Bidder is established or of the Kingdom of Bhutan; or
- f) Have not been declared by Druk Green to be ineligible for participation in tenders on account of any fraud and/or corruption in competing or executing a Contract; or
- g) has fulfilled all the contractual obligations with the DGPC in the past

Verified on this ..... day of ..... of the year..... that the particulars furnished above are true and correct to the best of my knowledge and belief and nothing in material have been concealed or misrepresented.

**Sealed and Signed:**

### FORM TECH-13: Consultants Information

[The Consultant 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 of Proposal submission].....

NIT No.: .....

1.	Consultants Legal Name:
2.	CDB registration number in case of Domestic Bidder (Also attach the photocopy of the certificate)
3.	In the case of a Joint Venture (JV) legal name of each member of the Joint Venture:
4.	Each member of JV's Country of Registration:
5.	Each member of JV's Certificate of Incorporation:
6.	Each member of JV's Year of Registration:
7.	Each member of JV's Legal Address in Country of Registration:
8.	Each member of JV's Principal Place of Business
9.	A certificate from Chartered Accountant regarding majority ownership of the company by nationals of Bhutan as on 30 days prior to the bid submission deadline (applicable for Domestic Bidders)
10.	Lead member of JV's Local Address in Bhutan (if any):
11.	Consultant or Each member of JV's Website Address:
12.	Consultant or Each member of JV's Business Activities:
13.	Consultant or Lead member of JV's Authorized Representative Name: Designation: Address: Telephone/Fax numbers: E-mail Address:
14.	Consultant or Lead member of JV's Authorized Representative in Bhutan (if any) Name of the company or firm: Name of the contact person: Designation: Address: Telephone/Fax numbers: E-mail Address: Services to be provided by the local representative:

15.	Status of the Consultant (check the box as applicable): <input type="checkbox"/> Bidding Company <input type="checkbox"/> Lead Member of the Joint Venture <input type="checkbox"/> Agent of the Foreign Consultant
16.	Attached are copies of the following original documents: <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Tax Clearance Certificate of Consultant named in 1 or 2 above (applicable for Bhutanese Bidders) <input type="checkbox"/> Certificate of Incorporation or Registration of Consultant named in 1 or 2 above <input type="checkbox"/> Any other certificate to support the legal entity of the Consultant named in 1 or 2 above

**Sealed and Signed:**

**FORM Tech-14: Bank Guarantee for Proposal Security**

WHEREAS, [insert name of Bidder] (hereinafter called the “Bidder”) has submitted his bid dated [insert date] for the [insert name of contract] (hereinafter called the “Bid”).

KNOWN ALL MEN by these presents that We [insert name of Bank] of [insert name of Country] having our registered office at [insert address] (hereinafter called the “Bank”) are bound unto [insert name of PROCURING ENTITY] (hereinafter called the “Entity”) in the sum of [insert amount] for which payment well and truly to be made to the said Entity the Bank binds himself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this \_\_\_\_ day of \_\_\_\_ 20.....

THE CONDITIONS of this obligation are if the Bidder: (a) Withdraws his Bid during the period of bid validity specified in the Form of Bid; or (b) if the selected Consultant fails to sign the Contract in accordance with the Instruction to Consultant; or

We undertake to pay the Entity up to the above amount upon receipt of his first written demand, without the Entity having to substantiate his demand, provided that in his demand the Entity will note that the amount claimed by him is due to him owing to the occurrence of one or both of the two (2) conditions, specifying the occurred condition or conditions. The Guarantee will remain in force up to and including the date [insert days}] days after the as stated in the Instruction to Consultant or as it may be extended by the Entity, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE \_\_\_\_\_

SIGNATURE OF THE BANK

\_\_\_\_\_ WITNESS \_\_\_\_\_

SEAL \_\_\_\_\_

Signature, Name and Address

## FORM TECH 15: Performance Evaluation System Acceptance

To  
[DGPC's Name and Address]  
Dear Sir/Madam,

With reference to our Proposal dated.....for.....*[insert name of service]*.....against NIT No....., we hereby conform that we have read the provisions in Section VII regarding the performance evaluation system and we hereby agree to abide by the provisions in the chapter on performance evaluation or do affirm as follows:

1. We agree to abide by all the provisions on performance evaluation of consultants for services.
2. If our proposal is accepted, we agree to be assessed as per the performance evaluation rating methodology adopted by DGPC.
3. We accept the rating depending on our performance and any action thereof.
4. We shall be liable for any breach of this undertaking and non-compliance to the provisions of performance evaluation system.

**Sealed and signed**

## B – FINANCIAL PROPOSAL FORMS

### FORM FIN-1: Financial Proposal Submission

[Location, Date]

To: [Name and address of DGPC]

Dear Sirs:

We, the undersigned, offer to provide the Consulting Services for [Insert title of assignment] in accordance with your Request for Proposal dated [Insert Date] and our Technical Proposal. Our attached Financial Proposal is for the sum of [Insert amount(s) in words and figures\*]. This amount is *exclusive of local taxes* (either to be paid by DGPC on behalf of the Consultant or reimburse the Consultant for any such taxes paid by the Consultant) which shall be identified during negotiations and added to the above amount.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal, i.e. before the date indicated in ITC 7.1.

Commissions and gratuities paid or to be paid by us to agents relating to this Proposal and Contract execution, if we are awarded the Contract, are listed below (*If applicable, replace this paragraph with: "No commissions or gratuities have been or are to be paid by us to agents relating to this Proposal and Contract execution"*): These costs are part of our financial proposal and included in the figure mentioned above.

Name and Address of Agent	Amount and Currency	Purpose of Commission or Gratuity
------------------------------	------------------------	--------------------------------------

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature [In full and initials]: \_\_\_\_\_

Name and Title of Signatory: \_\_\_\_\_

Name of Firm: \_

Address: \_\_\_\_\_

*\*Amounts must coincide with the ones indicated under Total Cost of Financial Proposal in Form FIN-2.*

**FORM FIN-2: Summary of Cost**

<b>Activities</b>	<b>Total Amount (Indicate Currency)</b>
Consulting Services for Preparation of Detailed Project Report (DPR) including Environmental and Social Impact Assessment (ESIA) for Khomachhu Hydropower Project	

*\*Indicate between brackets the name of the currency. Use as many columns as needed, and delete any that are not used.*

*\*\*Indicate the total costs, inclusive of local taxes, to be paid by the DGPC for each activity in each currency. Such total costs must coincide with the sum of the relevant Subtotals indicated in all Forms FIN-3 provided with the Proposal.*

**FORM FIN-3: Breakdown of Costs by Activity**

SN	Group of Activities (Phase)*	Amount (Indicate Currency)
	Cost Component	
1	<b>Remuneration</b>	
	i) Technical Design & Engineering Consultancy	
	ii) ESIA Consultancy	
2	<b>Reimbursable Expenses</b>	
3	<b>Training Expenses</b>	
4	<b>Taxes</b>	
	<b>Total</b>	

*\*Form FIN-3 shall be filled in at least for the whole assignment activity wise. In case some of the activities require different modes of billing and payment (e.g.: the assignment is phased, and each phase has a different payment schedule), the Consultant shall fill in a **separate Form FIN-3 for each group of activities**. For each currency, the sum of the relevant Subtotals of all Forms FIN-3 provided must coincide with the Total Costs of Financial Proposal indicated in Form FIN-2.*

*\*\* Names of activities (phase) should be the same as, or correspond to, the ones indicated in the second column of Form TECH-8.*

**FORM FIN-4: Breakdown of Remuneration**

*(This Form FIN-4 shall only be used when the Time-Based Form of Contract has been included in the RFP For each activity separate form has to be prepared and submitted) --- NOT APPLICABLE*

Group of Activities (Phase): _____							
Name	Position	Monthly Rate	Input (months)	[Indicate Foreign Currency]			[Indicate Local Currency]
<b>Foreign Staff</b>							
		[Home]					
		[Field]					
<b>Local Staff (to be given only in local currency)</b>							
		[Home]					
		[Field]					
Total Costs*							

- Total cost for each activity should equal to the total cost of remuneration as shown for that activity in form FIN 3

*(This Form FIN-4 shall only be used when the Lump-Sum Form of Contract has been included in the RFP) - Applicable*

Name	Position	Home/Field	Input (Person-month)	Monthly Rate (Indicate Currency)	Amount (Indicate Currency)
<b>Key Expert for Technical Design and Engineering Consultancy</b>					
	Hydropower Expert	[Home]	3.0		
		[Field]	1.5		
	Hydrology and Sediment Expert	[Home]	2.0		
		[Field]	-		
	Seismic Expert	[Home]	1.0		
		[Field]	-		
	Engineering Geologist	[Home]	4.0		
		[Field]	2.0		
	Dam Expert	[Home]	3.0		
		[Field]	1.0		
	Hydraulic Expert	[Home]	4.0		
		[Field]	1.5		
	Structural Engineer	[Home]	3.0		
		[Field]	-		
	H&M Expert	[Home]	2.0		
		[Field]	-		
	E&M Expert	[Home]	2.0		
		[Field]	-		
	Construction Methodology, Equipment planning & Project Schedule Expert	[Home]	2.0		
		[Field]	-		
	Cost Estimator	[Home]	2.5		
		[Field]	-		
	Economic and Financial Expert	[Home]	2.0		
		[Field]			
<b>Sub-Total (A)</b>			<b>36.50</b>		

Name	Position	Home/Field	Input (Person-month)	Monthly Rate (Indicate Currency)	Amount (Indicate Currency)
<b>International Key Expert for ESIA</b>					
	Environmental Specialist (Team Leader, International)	[Home]	2.0		
		[Field]	2.0		
	Social Development Specialist (Co-Team Leader, International)	[Home]	1.5		
		[Field]	1.5		
	Environmental Flow Specialist (International)	[Home]	1.5		
		[Field]	0.5		
	Aquatic and Riparian Biodiversity Specialist (International)	[Home]	1.0		
		[Field]	1.0		
	Terrestrial Biodiversity Specialist (International)	[Home]	1.0		
		[Field]	1.0		
	Climate Change Expert (International)	[Home]	0.5		
		[Field]	0.5		
<b>Sub-Total (B)</b>			<b>14.0</b>		
<b>National Expert</b>					
	Environmental Specialist (National Expert and country focal point)	[Home]	1.5		
		[Field]	1.0		
	Biodiversity Expert	[Home]	1.5		
		[Field]	1.5		
	Social Expert	[Home]	1.5		
		[Field]	1.5		
<b>Sub-Total (C)</b>			<b>8.5</b>		
<b>Support Staff/Non-Key Experts (D)</b>		<i>Home</i>	1S	-	
<b>Grand Total Costs* - (A+B+C+D)</b>					

Note:

- i) The total level of effort specified in the Contract, expressed in person-months for key, shall be firm and fixed for the entire duration of the Contract.
- ii) The Consultant shall conduct its own independent assessment and verification of the adequacy of the monthly remuneration rates and other associated costs prior to submission of its proposal. The Client shall not be responsible for any errors, omissions, or miscalculations made by the Consultant in its assessment of costs and pricing.

- iii) This Contract is established on a lump sum basis. The lump sum Contract Price is fixed and not subject to any adjustment or revision, regardless of any changes in economic conditions, currency fluctuations, or the Consultant's internal resource allocation, except as otherwise expressly provided for in this Contract.

\*Total cost for each activity should equal to the total cost of remuneration as shown for that activity in form FIN 3

*(This Form FIN-4 shall only be used when the Lump-Sum Form of Contract has been included in the RFP) for Training in Bhutan – APPLICABLE*

SN	Training	Unit	Quantity	Unit Cost (Indicate Currency)	Amount (Indicate Currency)
1	Transient Analysis	Day	3		
2	Dynamic analysis of dam	Day	3		
3	E&M/Power House design and sizing	Day	3		
4	Dam Break and GLOF assessment	Day	5		
5	E-flow Assessment	Day	3		
6	Critical Habitat Assessment (Biodiversity Assessment)	Day	3		
7	Social- Data Collection technique and Analysis	Day	3		
<b>Total Costs*</b>					

\*The total cost in this format for each activity should be equal to the total expense for such activity shown in form FIN 3

*(This Form FIN-4 shall only be used when the Lump-Sum Form of Contract has been included in the RFP.)*

Note:

1. The information provided in this Form shall be used exclusively for the purpose of determining payments to the Consultant for any additional services that may be requested by Druk Green Power Corporation Limited (DGPC) beyond the scope of this consultancy contract.
2. The daily remuneration rates stated for the Key Experts shall reflect the actual remuneration payable to such personnel. In the event that DGPC requires the Consultant to perform additional works not covered under the present Contract, these rates shall serve as the basis for calculating payments for such additional services, subject to mutual agreement and formal amendment of the Contract where applicable.

Name	Position	Home/Field	Daily Rate (Indicate Currency)
<b>Key Expert for Design Consultancy Services</b>			
	Hydropower Expert	[Home]	
		[Field]	
	Hydrology and sediment expert	[Home]	
		[Field]	
	Seismic Expert	[Home]	
		[Field]	
	Engineering Geologist	[Home]	
		[Field]	
	Dam Expert	[Home]	
		[Field]	
	Hydraulic Expert	[Home]	
		[Field]	
	Structural Engineer	[Home]	
		[Field]	
	H&M Expert	[Home]	
		[Field]	
	E&M Expert	[Home]	
		[Field]	
	Construction Methodology, Equipment planning & Project Schedule Expert	[Home]	
		[Field]	
	Cost Estimator	[Home]	
		[Field]	

Name	Position	Home/Field	Daily Rate (Indicate Currency)
	Economic and Financial Expert	[Home]	
		[Field]	
<b>Non- Key Expert for Design Consultancy Services</b>			
	Hydropower / Deputy Project Manager	[Home]	
		[Field]	
	Structural Expert	[Home]	
		[Field]	
	Geologist	[Home]	
		[Field]	
	Hydraulic Engineer	[Home]	
		[Field]	
	Assistant Project Manager	[Home]	
		[Field]	
<b>International Key Expert for ESIA</b>			
	Environmental Specialist (Team Leader, International)	[Home]	
		[Field]	
	Social Development Specialist (Co-Team Leader, International)	[Home]	
		[Field]	
	Environmental Flow Specialist (International)	[Home]	
		[Field]	
	Aquatic and Riparian Biodiversity Specialist (International)	[Home]	
		[Field]	
	Terrestrial Biodiversity Specialist (International)	[Home]	
		[Field]	
	Climate Change Expert (International)	[Home]	
		[Field]	
<b>National Expert</b>			
	Environmental Specialist (National Expert and country focal point)	[Home]	
		[Field]	
	Biodiversity Expert	[Home]	
		[Field]	
	Social Expert	[Home]	
		[Field]	

**FORM FIN-5: Breakdown of Reimbursable Expenses**

*(This Form FIN-5 shall only be used when the Time-Based Form of Contract has been included in the RFP----NOT APPLICABLE*

Group of Activities (Phase): _____								
SN	Description <i>[DGPC to insert the items of reimbursable expenses sought to be reimbursed]</i>	Unit	Unit Cost	Quantity	<i>[Indicate Foreign Currency]</i>			<i>[Indicate Local Currency]</i>
Total Costs*								

\*The total costs in this format for each activity should be equal to the total expenses for such activity shown in form FIN 3

*(This Form FIN-5 shall only be used when the Lump-Sum Form of Contract has been included in the RFP) – APPLICABLE*

SN	Description	Unit	Quantity	Unit Cost (Indicate Currency)	Amount (Indicate Currency)
1	Per Diem Allowances for International (accommodation + Expenses)	Day	361		
2	Per Diem Allowances National (accommodation + Expenses)	Day	164		
3	International flights and round the trips	Round Trip	26		
4	In and out transportation to Airport	Trip	26		
5	Visa Cost	No.	26		
6	Social Survey- enumerators payment, logistics and food	LS	1		
7	GIS and Mapping	LS	1		
8	Communication Cost	LS	1		
<b>Total Costs*</b>					

**Note:**

1. The quantities of per diem allowances and international airfares have been estimated based on the anticipated number of field visits by the Experts. However, payments for these items shall be made based on actual expenses incurred, subject to submission of supporting documentation and in accordance with the provisions of the Contract.
2. Druk Green Power Corporation Limited (DGPC) shall arrange local transportation within Bhutan, including airport transfers upon arrival and departure, for international experts only. Local experts shall be responsible for arranging and managing their own local transportation.

*(This Form FIN-5 shall only be used when the Lump-Sum Form of Contract has been included in the RFP) – NOT APPLICABLE*

SN	Particulars	Unit	Quantity	Unit Cost (Indicate Currency)	Amount (Indicate Currency)
<b>Total Costs*</b>					

\*The total cost in this format for each activity should be equal to the total expense for such activity shown in form FIN 3



**SECTION V – TERMS OF REFERENCE**  
**(Attached as Annexure-II)**

**SECTION VI – GENERAL CONDITIONS OF CONTRACT**

## SECTION V – GENERAL CONDITIONS OF CONTRACT

### GCC.1. Definitions

GCC.1.1. The following words and expressions shall have the meaning hereby assigned to them except where the context otherwise requires.

- a) “Affiliate” means business concerns, organisations, or individuals that control each other or that are controlled by a common third party. Control may include shared management or ownership, common use of facilities, equipment and employees; or family interest.
- b) “Applicable Laws of Bhutan” means the laws and any other instruments having the force of law in Bhutan;
- c) “Consultant” means an individual or a legal entity entering into a Contract to provide the Services to DGPC under the Contract;
- d) “Consulting Services” means expert services of a professional and/or intellectual nature, provided by the Consultant based on specialized expertise and skills, pursuant to the Contract executed between DGPC and Consultant; Consultancy Services includes but not limited to policy advice, institutional reforms, management, engineering services, construction supervision, financial services, procurement services, social and environmental studies, hydrological studies, geotechnical and seismic studies, lineament mapping and identification, preparation of prefeasibility, feasibility and detailed project reports and implementation of projects;
- e) “Contract” means the formal agreement in writing, entered into between DGPC and the consultant on acceptable terms and conditions and which are in compliance with all the relevant provisions of the laws of the Kingdom of Bhutan;
- f) “Data Sheet” means such part of the Instructions to Consultants used to reflect specific assignment conditions;
- g) “Day” means calendar day of the Gregorian calendar. However, “Working day” as used herein means all calendar days excluding Sundays and Government holidays in the Kingdom of Bhutan;
- h) “DGPC” means Druk Green Power Corporation Limited including its successors and permitted assigns;
- i) “Domestic Bidder” shall mean any Bidder having nationality of Bhutan or a group of legal entities all members of the group having nationality of Bhutan. A legal entity shall be considered as having the nationality of Bhutan if it is registered within Bhutan constituted under and governed by the civil, commercial or public laws of Bhutan, and have its statutory office, central administration or principal place of business in Bhutan;
- j) “Effective Date” means the date on which this Contract comes into force and effect pursuant to GCC.13;
- k) “Foreign Currency” shall mean any currency other than Bhutanese Ngultrum (BTN)
- l) “GCC” means General Conditions of Contract;
- m) “Government” means the Royal Government of Bhutan (RGoB).
- n) “In Writing” means communicated in written form (eg by mail, electronic mail, fax, ) with proof of receipt;
- o) “ITC” means Instructions to Consultants;
- p) “LOI” means Letter of Invitation;
- q) “Month” means calendar month of the Gregorian Calendar.
- r) “Member” means any of the entities that make up the joint venture/consortium/association; and “Members” means all these entities.
- s) “Party” means the DGPC or the Consultant, as the context requires, and “Parties” means both of them.
- t) “Personnel” means professional and support staff provided by the Consultant or by any Sub-Consultants and assigned to perform the Services or any part thereof;

“Foreign Personnel” means such professional and support staff who at the time of being so provided have their domicile outside Bhutan; “Local Personnel” means such professional and support staff who at the time of being so provided have their domicile in Bhutan; and “Key Personnel” means the Personnel referred to in 0.

- u) “RFP” means Request for Proposal;
- v) “SCC” means the Special Conditions of Contract by which the GCC may be amended or supplemented;
- w) “Sub-Consultant” means a Consultant selected to provide a pre specified service and nominated as sub-consultant to the main Consultant for such purpose;
- x) “Terms of Reference (TOR)” means the document included in the RFP as Section V which defines the objectives, goals, scope of work, activities, tasks, responsibilities of DGPC and the Consultant, required outputs and results of the assignment, as well as background information (including a list of existing relevant studies and basic data) to facilitate the Consultants’ preparation of their proposals.
- y) “Third Party” means any person or entity other than DGPC, the Consultant or a Sub-Consultant.

## **GCC.2. Relationship between the Parties**

GCC.2.1. Nothing contained herein shall be construed as establishing a relationship of master and servant or of principal and agent as between DGPC and the Consultant. The Consultant, subject to the Contract, has complete charge of Personnel and Sub-Consultants, if any, performing the Services and shall be fully responsible for the Services performed by them or on their behalf hereunder.

## **GCC.3. Governing Law**

GCC.3.1. The Contract shall be governed by and interpreted in accordance with the laws of the Kingdom of Bhutan. The courts of Thimphu shall have exclusive jurisdiction in all matters arising out of the Contract unless otherwise stated in the SCC.

GCC.3.2. The Consultant shall, in all matters arising in the performance of the Contract, comply in all respects, give all notices and pay all fees required by the provisions of any statute, ordinance or other law or any regulation or by law of any duly constituted authority of the Kingdom of Bhutan.

GCC.3.3. The Consultant shall indemnify and hold harmless DGPC from and against any and all liabilities, damages, claims, fines, penalties and expenses of whatever nature arising or resulting from the violation of such laws by the Consultant or its personnel including its Sub-Consultants and their employees.

## **GCC.4. Language**

GCC.4.1. The Contract, as well as all correspondence and documents relating to the Contract exchanged by the Consultant and DGPC, shall be written in English. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Contract, the translation shall govern.

GCC.4.2. The Consultant shall bear all costs of translation to the governing language and all risks of the accuracy of such translation, for documents provided by the Consultant.

## **GCC.5. Headings**

GCC.5.1. The headings shall not limit, alter or affect the meaning of this Contract.

## **GCC.6. Notices**

GCC.6.1. Any notice, request or consent required or permitted to be given or made pursuant to this Contract shall be in writing. Any such notice, request or consent shall be deemed to have been given or made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent to such Party at the address specified in the SCC.

GCC.6.2. A Party may change its address for notice hereunder by giving the other Party notice in writing of such change to the address specified in the SCC.

## **GCC.7. Location**

GCC.7.1. The Services shall be performed at such locations as are specified in SCC, Appendix A of Appendices hereto and, where the location of a particular task is not so specified, at such locations, whether in Bhutan or elsewhere, as DGPC may approve.

## **GCC.8. Authority of Member in Charge**

GCC.8.1. In case the Consultant consists of a joint venture/consortium/association of more than one entity, the Members hereby authorize the entity specified in the SCC to act on their behalf in exercising all the Consultant's rights and obligations towards DGPC under this Contract, including without limitation the receiving of instructions and payments from DGPC.

## **GCC.9. Authorized Representatives**

GCC.9.1. Any action required or permitted to be taken, and any document required or permitted to be executed under this Contract by DGPC or the Consultant may be taken or executed by the officials specified in the SCC.

## **GCC.10. Contract Performance Security**

GCC.10.1. If specified in the SCC, the Consultant shall provide securities for due performance of the Contract, in the manner specified and as per the terms set forth in the SCC.

## **GCC.11. Taxes and Duties**

GCC.11.1. As per 0, DGPC will either pay or reimburse the Consultant for payment of such **indirect taxes**, duties, fees and other impositions levied under the Applicable Laws of Bhutan.

## **GCC.12. Fraud and Corruption**

GCC.12.1. It is required that Consultants, their Sub-Consultants and the Personnel of both of them observe the highest standards of ethics during the execution of the Contract.

GCC.12.2. For the purposes of this sub-clause, the terms set forth are defined as follows:

- a) "corrupt practice" is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- b) "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
- c) "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;

- d) “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;
- e) “obstructive practice” is
  - i) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede any 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
  - ii) acts intended materially to impede the exercise of the inspection rights of DGPC or any organization or person appointed by DGPC.

GCC.12.3. DGPC will cancel the Contract if it at any time determines that representatives of the Consultant, any Sub-Consultant, the personnel of either of them, or any other participant in the procurement and Contract execution process, were engaged in corrupt, fraudulent, collusive, coercive or obstructive practices during the procurement and selection process or the execution of the Contract.

GCC.12.4. DGPC will sanction a Consultant, Sub-Consultant or the personnel of either of them, including declaring them ineligible, either indefinitely or for a stated period of time, to be awarded a DGPC Contract if at any time it determines that they have, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for, or in executing, a DGPC Contract.

GCC.12.5. DGPC will report the case of corrupt, fraudulent, collusive, coercive or obstructive practice to the relevant RGoB agencies, including but not limited to the Anti-Corruption Commission (ACC) of Bhutan, for necessary action in accordance with the statutes and provisions of the relevant agency.

GCC.12.6. DGPC will require the successful Consultant to disclose any commissions or fees that may have been paid or are to be paid to agents, representatives or commission agents with respect to the selection process or the execution of the Contract. The information disclosed must include at least the name and address of the agent, representative or commission agent, the amount and currency, and the purpose of the commission or fee.

**GCC.13. Effectiveness of Contract**

GCC.13.1. This Contract shall come into force and effect on the date (the “Effective Date”) of DGPC’s notice to the Consultant instructing the Consultant to begin carrying out the Services. This notice shall confirm that the effectiveness conditions, if any, listed in the SCC have been met.

**GCC.14. Termination of Contract for failure to become effective**

GCC.14.1. If this Contract has not become effective within such time period after the date of the Contract signed by the Parties as specified in the SCC, either Party may, by not less than twenty one (21) days written notice to the other Party, declare this Contract to be null and void, and in the event of such a declaration by either Party, neither Party shall have any claim against the other Party with respect hereto.

**GCC.15. Commencement**

GCC.15.1. The Consultant shall begin carrying out the Services not later than the number of days after the Effective Date specified in the SCC.

**GCC.16. Expiration of Contract**

GCC.16.1. Unless terminated earlier pursuant to GCC.21 hereof, this Contract shall expire at the end of such time period after the Effective Date as is specified in the SCC.

GCC.16.2. If the Contractor fails to complete the work within the stipulated time, then Liquidated Damage shall be deducted as mentioned in the SCC.

**GCC.17. Entire Agreement**

GCC.17.1. This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.

**GCC.18. Modifications or Variation**

GCC.18.1. Any modification or time of the terms and conditions of this Contract, including any modification or variation of the scope of the Services, may only be made by written agreement between the Parties. However, each Party shall give due consideration to any proposals for modification or variation made by the other Party.

**GCC.19. Force Majeure**

GCC.19.1. "Force Majeure" shall mean any event or circumstance beyond the control of DGPC or of the Consultant, as the case may be, and which is unavoidable notwithstanding the reasonable care of the Party affected and which substantially affect the performance of the Contract. The event and circumstances of Force Majeure shall include, without limitation, the following:

- a) war, hostilities or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy and civil war;
- b) rebellion, revolution, insurrection, mutiny, usurpation of civil or military government, conspiracy, riot, civil commotion and terrorist acts;
- c) confiscation, nationalization, mobilization, commandeering or requisition by or under the order of any government or de-jure or de-facto authority or ruler or any other act or failure to act of any government authority;
- d) strike by persons other than Contactor's or Sub Consultants employees/workers/labourers, sabotage, lockout, freight embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, epidemics, quarantine and plague;
- e) earthquake, landslide, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or other inclement weather condition (Inclement weather conditions shall either be in winter or in monsoon season which results in stoppage of work and such stoppage of work is duly recorded in the hindrance records maintained by the Druk Green for each contract. Provided where for the period of monsoon, the completion time has already been excluded), nuclear and pressure waves or other natural or physical disaster;
- f) shortage of labor, materials or utilities where caused by circumstances that are themselves Force Majeure.

GCC.19.2. Force Majeure shall not include (i) any event which is caused by the negligence or intentional action of a Party or such Party's Sub-Consultants or agents or employees, nor (ii) any event which a diligent Party could reasonably have been expected both to take into account at the time of the conclusion of this Contract, and to avoid or overcome in the carrying out of its obligations hereunder.

- GCC.19.3. Force Majeure shall not include insufficiency of funds or failure to make any payment required hereunder.
- GCC.19.4. The failure of a Party to fulfil any of its obligations hereunder 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 has taken all reasonable precautions, due care and reasonable alternative measures, all with the objective of carrying out the terms and conditions of this Contract.
- GCC.19.5. Measures to be taken:
- GCC.19.5.1. A Party affected by an event of Force Majeure shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall take all reasonable measures to minimize the consequences of any event of Force Majeure.
- GCC.19.5.2. A Party affected by an event of Force Majeure shall notify the other Party of such event as soon as possible, and in any case not later than fourteen (14) days following the occurrence of such event, providing evidence of the nature and cause of such event, and shall similarly give written notice of the restoration of normal conditions as soon as possible.
- GCC.19.5.3. 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.
- GCC.19.5.4. During the period of its inability to perform the Services as a result of an event of Force Majeure, the Consultant, upon instructions by DGPC, shall either:
- a) demobilize, in which case the Consultant shall be reimbursed for additional costs they reasonably and necessarily incur, and, if required by DGPC, in reactivating the Services; or
  - b) continue with the Services to the extent possible, in which case the Consultant shall continue to be paid under the terms of this Contract and be reimbursed for additional costs reasonably and necessarily incurred.
- GCC.19.5.5. In the case of disagreement between the Parties as to the existence or extent of Force Majeure, the matter shall be settled according to GCC.47.

## **GCC.20. Suspension**

- GCC.20.1. DGPC may, by written notice of suspension to the Consultant, suspend all payments to the Consultant hereunder if the Consultant fails to perform any of its obligations under this Contract, including the carrying out of the Services, provided that such notice of suspension (i) shall specify the nature of the failure, and (ii) shall request the Consultant to remedy such failure within a period not exceeding thirty (30) days after receipt by the Consultant of such notice of suspension. Upon remedying the failure by the Consultant the payments to the Consultant shall be commenced.

## **GCC.21. Termination**

- GCC.21.1. Termination by DGPC

GCC.21.1.1.

- GCC.21.1.2. DGPC may terminate this Contract in case of the occurrence of any of the events specified in paragraphs (a) through (g) of this clause. In such an occurrence DGPC shall give not less than thirty (30) days written notice of termination to the Consultant, or sixty (60) days in case of the event referred to in paragraph (g) of this clause.

- a) If the Consultant fails to remedy a failure in the performance of its obligations hereunder, as specified in a notice of suspension pursuant to GCC.20 hereinabove, within forty five (45) days of receipt of such notice of suspension or within such further period as DGPC may have subsequently approved in writing.
- b) If the Consultant becomes (or, if the Consultant consists of more than one entity, if any of its Members becomes) insolvent or bankrupt or enters into any agreements with its creditors for relief of debt or takes advantage of any law for the benefit of debtors or goes into liquidation or receivership whether compulsory or voluntary.
- c) If the Consultant fails to comply with any final decision reached as a result of arbitration proceedings pursuant to GCC.47 hereof.
- d) If the Consultant, in the judgment of DGPC, has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for or in executing this Contract.
- e) If the Consultant submits to DGPC a false statement which has a material effect on the rights, obligations or interests of DGPC.
- f) If, as the result of Force Majeure, the Consultant is unable to perform a material portion of the Services for a continuous period of not less than sixty (60) days.
- g) If DGPC, in its sole discretion and for any reason whatsoever, decides to terminate this Contract.

GCC.21.2. Termination by Consultant

GCC.21.2.1. The Consultant may terminate this Contract, by not less than thirty (30) days written notice to DGPC, in case of the occurrence of any of the events specified in paragraphs (a) through (d) of this clause.

- a) If DGPC fails to pay any money due to the Consultant pursuant to this Contract and not subject to dispute pursuant to GCC.47 hereof within forty-five (45) days after receiving written notice from the Consultant that such payment is overdue.
- b) If, as the result of Force Majeure, the Consultant is unable to perform a material portion of the Services for a continuous period of not less than sixty (60) days.
- c) If DGPC fails to comply with any final decision reached as a result of arbitration pursuant to GCC.47 hereof.
- d) If DGPC is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty-five (45) days (or such longer period as the Consultant may have subsequently approved in writing) following the receipt by DGPC of the Consultant's notice specifying such breach.

GCC.21.3. Cessation of rights and obligations

GCC.21.3.1. Upon termination of this Contract pursuant to GCC.14 or GCC.21 hereof, or upon expiration of this Contract pursuant to GCC.16 hereof, all rights and obligations of the Parties hereunder shall cease, except (i) such rights and obligations as may have accrued on the date of termination or expiration, (ii) the obligation of confidentiality set forth in GCC.28 hereof, (iii) the Consultant's obligation to permit inspection, copying and auditing of its accounts and records set forth in GCC.31 thereof (applicable for only time based contract), and (iv) any right which a Party may have under the Applicable Laws of Bhutan.

GCC.21.4. Cessation of Services

GCC.21.4.1. Upon termination of this Contract by notice of either Party to the other pursuant to 0 or 0 hereof, the Consultant shall, immediately upon dispatch or receipt of such notice, take all necessary steps to bring the Services to a close in a prompt and orderly manner and shall make every reasonable effort to keep expenditures for this purpose to a minimum. With respect to documents prepared by the Consultant and equipment, vehicles and/or materials furnished by DGPC, the Consultant shall proceed as provided respectively by GCC.34 or GCC.35 hereof.

## **GCC.21.5. Payment upon Termination**

GCC.21.5.1. Upon termination of this Contract pursuant to 0 or 0 hereof, DGPC shall make the following payments to the Consultant:

- a) remuneration pursuant to 0 hereof for Services satisfactorily performed prior to the effective date of termination, and reimbursable expenditures pursuant to 0 hereof for expenditures actually incurred prior to the effective date of termination; and
- b) except in the case of termination pursuant to paragraphs (a) through (e) of 0 hereof, reimbursement of any reasonable cost incidental to the prompt and orderly termination of this Contract including the cost of the return travel of the Personnel.

GCC.21.6. Disputes about events of Termination

GCC.21.6.1. If either Party disputes whether an event specified in paragraphs (a) through (f) of 0 or in 0 hereof has occurred, such Party may, within forty-five (45) days after receipt of notice of termination from the other Party, refer the matter for settlement through arbitration under GCC.47 hereof, and this Contract shall not be terminated on account of such event except in accordance with the terms of any resulting arbitral award.

## **GCC.22. Standard of Performance**

GCC.22.1. The Consultant shall perform the Services and carry out its obligations hereunder with all due diligence, efficiency and economy, in accordance with generally accepted professional standards and practices, and shall observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods. The Consultant shall always act, in respect of any matter relating to this Contract or to the Services, as faithful adviser to DGPC, and shall at all times support and safeguard DGPC's legitimate interests in any dealings with Sub-Consultants or Third Parties.

## **GCC.23. Law governing Services**

GCC.23.1. The Consultant shall perform the Services in accordance with the Applicable Laws of Bhutan and shall take all practicable steps to ensure that any Sub-Consultants, as well as the Personnel of the Consultant and any Sub-Consultants, comply with the said Applicable Laws. DGPC shall notify the Consultant in writing of relevant local customs, and the Consultant shall, after such notification, respect such customs.

## **GCC.24. Conflict of Interest**

GCC.24.1. The Consultant shall hold DGPC's interests paramount, without any consideration for future work, and strictly avoid conflict with other assignments or its own corporate interests.

## **GCC.25. Consultant not to benefit from Commissions, Discounts, etc.**

GCC.25.1. The payment of the Consultant pursuant to GCC.45 hereof shall constitute the Consultant's only payment in connection with this Contract and, subject to GCC.26 hereof, the Consultant shall not accept for its own benefit any trade commission, discount or similar payment in connection with activities pursuant to this Contract or in the discharge of its obligations hereunder, and the Consultant shall use its best efforts to ensure that any Sub-Consultants, as well as the Personnel and agents of either of them, similarly shall not receive any such additional payment.

GCC.25.2. Furthermore, if the Consultant, as part of the Services, has the responsibility of advising DGPC on the procurement of goods, works or services, the Consultant shall comply with

the applicable procurement guidelines, and shall at all times exercise such responsibility in the best interests of DGPC. Any discounts or commissions obtained by the Consultant in the exercise of such procurement responsibility shall be for the account of DGPC.

**GCC.26. Consultants and Affiliates not to engage in certain activities**

GCC.26.1. The Consultant agrees that, during the term of this Contract and after its termination, the Consultant and any entity affiliated with the Consultant, as well as any Sub-Consultants and any entity affiliated with such Sub-Consultants, shall be disqualified from providing goods, works or services (other than consulting services) resulting from or directly related to the Consultant's Services for the preparation or implementation of the project.

**GCC.27. Prohibition of conflicting activities**

GCC.27.1. The Consultant shall not engage, and shall cause its Personnel as well as its Sub-Consultants and their Personnel not to engage, either directly or indirectly, in any business or professional activities that would conflict with the activities assigned to them under this Contract.

**GCC.28. Confidentiality**

GCC.28.1. Except with the prior written consent of DGPC, the Consultant and the Personnel shall not at any time communicate to any person or entity any confidential information acquired in the course of the Services, nor shall the Consultant and the Personnel make public the recommendations formulated in the course of, or as a result of, the Services.

**GCC.29. Liability of the Consultant**

GCC.29.1. Subject to additional provisions, if any, set forth in the SCC, the Consultant's liability under this Contract shall be governed by the Applicable Laws of Bhutan.

**GCC.30. Insurance**

GCC.30.1. The Consultant (i) shall take out and maintain, and shall cause any Sub-Consultants to take out and maintain, at their (or the Sub-Consultants', as the case may be) own cost but on terms and conditions approved by DGPC, insurance against the risks, and for the coverage specified in the SCC, and (ii) at DGPC's request, shall provide evidence to DGPC showing that such insurance has been taken out and maintained and that the current premiums thereof have been paid.

**GCC.31. Accounting, Inspection and Auditing for time based Contracts**

GCC.31.1. The Consultant (i) shall keep accurate and systematic accounts and records in respect of the Services hereunder, in accordance with internationally accepted accounting principles and in such form and detail as will clearly identify all relevant time charges and costs, and the bases thereof, and (ii) shall periodically permit DGPC or its designated representative, for a period of up to five (5) years from expiration or termination of this Contract, to inspect the same and make copies thereof as well as to have them audited by auditors appointed by DGPC.

**GCC.32. Actions requiring prior approval**

GCC.32.1. The Consultant shall obtain DGPC's prior approval in writing before taking any of the following actions:  
a) Any change or addition to the Personnel listed in Appendix C of Appendices.

- b) Subcontracts: the Consultant may subcontract work relating to the Services to an extent and with such experts and entities as may be approved in advance by DGPC. Notwithstanding such approval, the Consultant shall retain full responsibility for the Services. In the event that any Sub-Consultants are found by DGPC to be incompetent or incapable in discharging their assigned duties, DGPC may request the Consultant to provide a replacement, with qualifications and experience acceptable to DGPC, or to resume the performance of the Services itself.
- c) Any other action that may be specified in the SCC.

**GCC.33. Reporting Obligations**

GCC.33.1. The Consultant shall submit to DGPC the reports and documents specified in Appendix B of Appendices hereto, in the form, in the numbers and within the time periods set forth in the said Appendix. Final reports shall be delivered on CD ROM in addition to the hard copies specified in the said Appendix.

**GCC.34. Documents prepared by Consultants**

GCC.34.1. All plans, drawings, specifications, designs, reports, other documents and software prepared by the Consultant for DGPC under this Contract shall become and remain the property of DGPC, and the Consultant shall, not later than upon termination or expiration of this Contract, deliver all such documents to DGPC, together with a detailed inventory thereof. The Consultant may retain a copy of such documents and software, and use such software for its own use with prior written approval of DGPC. If license agreements are necessary or appropriate between the Consultant and third parties for the purposes of development of any such computer programs, the Consultant shall obtain DGPC's prior written approval to such agreements, and DGPC shall be entitled at its discretion to require recovery of the expenses related to the development of the program(s) concerned. Other restrictions about the future use of these documents and software, if any, shall be specified in the SCC.

**GCC.35. Equipment, vehicles and materials provided by DGPC**

GCC.35.1. Equipment, vehicles and materials made available to the Consultant by DGPC, or purchased by the Consultant wholly or partly with funds provided by DGPC, shall be the property of DGPC and shall be marked accordingly. Upon termination or expiration of this Contract, the Consultant shall make available to DGPC an inventory of such equipment, vehicles and materials and shall dispose of such equipment and materials in accordance with DGPC's instructions. While in possession of such equipment, vehicles and materials, the Consultant, unless otherwise instructed by DGPC in writing, shall insure them at the expense of DGPC in an amount equal to their full replacement value.

**GCC.36. Equipment and materials provided by the Consultant**

GCC.36.1. Equipment or materials brought into Bhutan by the Consultant and the Personnel and used either for the Project or personal use shall remain the property of the Consultant or the Personnel concerned, as applicable.

**GCC.37. Consultant's Personnel and Sub-consultants**

GCC.37.1. The Consultant shall employ and provide such qualified and experienced Personnel and Sub-Consultants as are required to carry out the Services.

GCC.37.2. The title, agreed job description, minimum qualification and estimated period of engagement in the carrying out of the Services of each of the Consultant's Key Personnel

are described in Appendix C of Appendices. If any of the Key Personnel has already been approved by DGPC, his/her name is to be listed as well.

**GCC.37.3. This clause GCC.37.3 is applicable only for Time-Based Contracts**

GCC.37.3.1. In order to comply with the provisions of GCC.22 hereof, adjustments with respect to the estimated periods of engagement of Key Personnel set forth in Appendix C of Appendices may be made by the Consultant by written notice to DGPC, provided (i) that such adjustments shall not alter the originally estimated period of engagement of any individual by more than 10% or one week, whichever is larger, and (ii) that the aggregate of such adjustments shall not cause payments under this Contract to exceed the ceilings set forth in 0(b) of this Contract. Any other such adjustments shall only be made with the DGPC's written approval.

GCC.37.3.2. If additional work is required beyond the scope of the Services specified in Appendix A of Appendices, the estimated periods of engagement of Key Personnel set forth in Appendix C of Appendices may be increased by agreement in writing between DGPC and the Consultant. In case payments under this Contract exceed the ceilings set forth in 0 (b) of this Contract, this will be explicitly mentioned in the agreement.

**GCC.38. Approval of Personnel**

GCC.38.1. The Key Personnel and Sub-Consultants listed by title as well as by name in Appendix C of Appendices are hereby approved by DGPC. In respect of other Personnel which the Consultant proposes to use in carrying out the Services, the Consultant shall submit to DGPC for review and approval a copy of their Curricula Vitae (CVs). If DGPC does not object in writing (stating the reasons for the objection) within twenty-one (21) days from the date of receipt of such CVs, such Personnel shall be deemed to have been approved by DGPC.

**GCC.39. Working hours, overtime, leave, etc.**

**This clause GCC.39 is applicable only for Time-Based Contracts.**

GCC.39.1. Working hours and holidays for Key Personnel are set forth in Appendix C of Appendices hereto. To account for travel time, Foreign Personnel carrying out Services inside Bhutan shall be deemed to have commenced or finished work in respect of the Services such number of days before their arrival in or after their departure from Bhutan as is specified in Appendix C of Appendices hereto.

GCC.39.2. The Key Personnel shall not be entitled to be paid for overtime nor to take paid sick leave or vacation leave. The Consultant's remuneration shall be deemed to cover these items. All leave to be allowed to the Personnel is included in the staff-months of service set forth in Appendix C of Appendices.

**GCC.40. Removal and/or Replacement of Personnel**

GCC.40.1. Except as DGPC may otherwise agree, no changes shall be made in the Personnel. If, for any reason beyond the reasonable control of the Consultant, such as retirement, death, medical incapacity, among others, it becomes necessary to replace any of the Personnel, the Consultant shall forthwith provide as a replacement a person of equivalent or better qualifications.

GCC.40.2. If DGPC (i) finds that any of the Personnel has committed serious misconduct or has been charged with having committed a criminal action, or (ii) has reasonable cause to be dissatisfied with the performance of any of the Personnel, then the Consultant shall, at

DGPC's written request specifying the grounds therefore, forthwith provide as a replacement a person with qualifications and experience acceptable to DGPC.

**GCC.40.3.** *(This clause 0 is applicable for only Time-Based Contracts)* Any of the Personnel provided as a replacement under 0 and 0 above, as well as any reimbursable expenditure (including expenditures due to the number of eligible dependents) the Consultant may wish to claim as a result of such replacement, shall be subject to prior written approval by DGPC. The rate of remuneration applicable to a replacement person will be obtained by multiplying the rate of remuneration applicable to the replaced person by the ratio between the monthly salary effectively to be paid to the replacement person and the average salary effectively paid to the replaced person in the period six months prior to the date of replacement. Except as DGPC may otherwise agree, (i) the Consultant shall bear all additional travel and other costs arising out of or incidental to any removal and/or replacement, and (ii) the remuneration to be paid for any of the Personnel provided as a replacement shall not exceed the remuneration which would have been payable to the Personnel replaced.

**GCC.40.4.** **In case of Lump-Sum Contracts, the above clause 0 shall NOT be applicable.** In Lump-Sum Contracts, the Consultant shall have no claim for additional costs arising out of or incidental to any removal and/or replacement of Personnel.

#### **GCC.41. Resident Project Manager**

**GCC.41.1.** If required by the SCC, the Consultant shall ensure that at all times during the Consultant's performance of the Services in Bhutan a resident project manager, acceptable to DGPC, shall take charge of the performance of such Services.

#### **GCC.42. DGPC's Obligations**

**GCC.42.1.** Unless otherwise specified in the SCC, DGPC shall use its best efforts to ensure that the Government shall:

- a) Provide the Consultant, Sub-Consultants and Personnel with work permits and such other documents as shall be necessary to enable the Consultant, Sub-Consultants or Personnel to perform the Services.
- b) Arrange for the Personnel and, if appropriate, their eligible dependents to be provided promptly with all necessary entry and exit visas, residence permits, exchange permits and any other documents required for their stay in Bhutan.
- c) Facilitate prompt clearance through customs of any property required for the Services and of the personal effects of the Personnel and their eligible dependents.
- d) Issue to officials, agents and representatives of the Government all such instructions as may be necessary or appropriate for the prompt and effective implementation of the Services.
- e) Exempt the Consultant and the Personnel and any Sub-Consultants employed by the Consultant for the Services from any requirement to register or obtain any permit to practice their profession or to establish themselves either individually or as a corporate entity according to the Applicable Laws of Bhutan.
- f) Grant to the Consultant, any Sub-Consultants and the Personnel of either of them the privilege, pursuant to the Applicable Laws of Bhutan, of bringing into Bhutan reasonable amounts of foreign currency for the purposes of the Services or for the personal use of the Personnel and their dependents and of withdrawing any such amounts as may be earned therein by the Personnel in the execution of the Services.
- g) Provide to the Consultant, Sub-Consultants and Personnel any such other assistance as may be specified in the SCC.

#### **GCC.43. Change in applicable laws**

GCC.43.1. If, after the date of this Contract, there is any change in the Applicable Laws of Bhutan with respect to taxes and duties which increases or decreases the cost incurred by the Consultant in performing the Services, then the remuneration and reimbursable expenses otherwise payable to the Consultant under this Contract shall be increased or decreased accordingly by agreement between the Parties hereto, and corresponding adjustments shall be made to the ceiling amounts specified in 0.

#### **GCC.44. Services, Facilities and Property of DGPC**

GCC.44.1. DGPC shall make available to the Consultant and the Personnel, for the purposes of the Services and free of any charge, the services, facilities and property described in Appendix F of Appendices at the times and in the manner specified in the said Appendix F of Appendices.

GCC.44.2. In case such services, facilities and property are not be made available to the Consultant as and when specified in Appendix F of Appendices, the Parties shall agree on (i) any time extension that it may be appropriate to grant to the Consultant for the performance of the Services, (ii) the manner in which the Consultant shall procure any such services, facilities and property from other sources, and (iii) the additional payments, if any, to be made to the Consultant as a result thereof pursuant to 0.

#### **GCC.45. Payments**

GCC.45.1. **Payment clauses in case of Time-Based Contracts.** (This clause 0 will **NOT** be applicable for Lump-Sum Contracts.)

GCC.45.1.1. Cost estimates and Ceiling Amount

- a) An estimate of the cost of the Services payable in foreign currency is set forth in SCC. An estimate of the cost of the Services payable in local currency is set forth in SCC.
- b) Except as may be otherwise agreed under GCC.18 and subject to 0(c), payments under this Contract shall not exceed the ceilings in foreign currency and in local currency specified in the SCC.
- c) Notwithstanding 0(b) hereof if, pursuant to any of GCC.43 or GCC.44 hereof, the Parties shall agree that additional payments in local and/or foreign currency, as the case may be, shall be made to the Consultant in order to cover any necessary additional expenditures not envisaged in the cost estimates referred to in 0(a) above, the ceiling or ceilings, as the case may be, set forth in 0(b) above shall be increased by the amount or amounts, as the case may be, of any such additional payments.

GCC.45.1.2. Remuneration and Reimbursable expenses

- a) Subject to the ceilings specified in 0 (b) hereof, DGPC shall pay to the Consultant (i) remuneration as set forth in 0 (b) hereunder, and (ii) reimbursable expenses as set forth in 0 (c) hereunder. Unless otherwise specified in the SCC, said remuneration shall be fixed for the duration of the Contract.
- b) Payment for the Personnel shall be determined on the basis of time actually spent by such Personnel in the performance of the Services after the date determined in accordance with GCC.15 and SCC (or such other date as the Parties shall agree in writing), at the rates referred to in SCC, and subject to price adjustment, if any, specified in SCC.
- c) Reimbursable expenses actually and reasonably incurred by the Consultant in the performance of the Services, as specified in SCC.
- d) Any rates specified for Personnel not yet appointed shall be provisional and shall be subject to revision, with the written approval of DGPC, once the applicable salaries and allowances are known.

- e) Payments for periods of less than one month shall be calculated on an hourly basis for actual time spent in the Consultant's home office and directly attributable to the Services (one hour being equivalent to 1/176th of a month or twenty-two (22) days being equal to one month) and on a calendar-day basis for time spent away from home office (one day being equivalent to 1/30th of a month).

GCC.45.1.3. Currency of Payment

Foreign currency payments shall be made in the currency or currencies specified in the SCC, and local currency payments shall be made in Bhutanese Ngultrum (BTN).

GCC.45.1.4. Mode of billing and payment

Billings and payments in respect of the Services shall be made as follows:

- a) Within the number of days after the Effective Date specified in the SCC, DGPC shall cause to be paid to the Consultant advance payments in foreign currency and in Bhutanese Ngultrum (BTN) as specified in the SCC. When the SCC indicate advance payment, this will be due after provision by the Consultant to DGPC of an advance payment guarantee acceptable to DGPC in an amount (or amounts) and in a currency (or currencies) specified in the SCC. Such guarantee shall (i) remain effective until the advance payment has been fully set off, and (ii) be in the form set forth in Appendix G of Appendices hereto, or in such other form as DGPC shall have approved in writing. The advance payments will be set off by DGPC in equal instalments against the statements for the number of months of the Services specified in the SCC until said advance payments have been fully set off.
- b) As soon as practicable and not later than fifteen (15) days after the end of each calendar month during the period of the Services, or after the end of each time interval otherwise indicated in the SCC, the Consultant shall submit to DGPC, in duplicate, itemized statements, accompanied by copies of invoices, vouchers and other appropriate supporting materials, of the amounts payable pursuant to 0 and 0 for such month, or any other period indicated in the SCC. Separate statements shall be submitted in respect of amounts payable in foreign currency and in local currency. Each statement shall distinguish that portion of the total eligible costs which pertains to remuneration from that portion and which pertains to reimbursable expenses.
- c) DGPC shall pay the Consultant's statements within thirty (30) days after the receipt by DGPC of such statements with supporting documents. Only such portion of a statement that is not satisfactorily supported may be withheld from payment. Should any discrepancy be found to exist between actual payment and costs authorized to be incurred by the Consultant, DGPC may add or subtract the difference from any subsequent payments. Interest at the annual rate specified in the SCC shall become payable as from the above due date on any amount due by, but not paid on, such due date.
- d) The final payment under this Clause shall be made only after the final report and a final statement, identified as such, shall have been submitted by the Consultant and approved as satisfactory by DGPC. The Services shall be deemed completed and finally accepted by DGPC and the final report and final statement shall be deemed approved by DGPC as satisfactory ninety (90) days after receipt of the final report and final statement by DGPC unless DGPC, within such ninety (90) day period, gives written notice to the Consultant specifying in detail deficiencies in the Services, the final report or final statement. The Consultant shall thereupon promptly make any necessary corrections, and thereafter the foregoing process shall be repeated. Any amount which DGPC has paid or caused to be paid in accordance with this Clause in excess of the amounts actually payable in accordance with the provisions of this Contract shall be reimbursed by the Consultant to DGPC within thirty (30) days after receipt by the Consultant of notice thereof. Any such claim by DGPC for reimbursement must be made within twelve (12) calendar months after receipt by

DGPC of a final report and a final statement approved by DGPC in accordance with the above.

- e) All payments under this Contract shall be made to the accounts of the Consultant specified in the SCC.
- f) Payments in respect of remuneration or reimbursable expenses which exceed the cost estimates for these items as set forth in Appendix D and E of Appendices may be charged to the respective contingencies provided for foreign and local currencies only if such expenditures were approved by DGPC prior to being incurred.
- g) With the exception of the final payment under (d) above, payments do not constitute acceptance of the Services nor relieve the Consultant of any obligations hereunder.

**GCC.45.2. Payment clauses in case of Lump-Sum Contracts.** *(This clause 0 will NOT be applicable for Time-Based Contracts.)*

**GCC.45.2.1. Lump-Sum Payment**

The total payment due to the Consultant shall not exceed the Contract Price which is an all-inclusive fixed lump-sum covering all costs required to carry out the Services described in Appendix A of Appendices. Except as provided in GCC.43 and 0, if the Parties have agreed to additional payments in accordance with GCC.18.

**GCC.45.2.2. Payment for additional services**

For the purpose of determining the remuneration due for additional services as may be agreed under GCC.18, a breakdown of the lump-sum price is provided in Appendices D and E of Appendices.

**GCC.45.2.3. Terms and conditions of payment**

Payments will be made to the account(s) of the Consultant and according to the payment schedule stated in the SCC. Unless otherwise stated in the SCC, the first payment shall be made against the provision by the Consultant of an advance payment guarantee for the same amount, and shall be valid for the period stated in the SCC. Such guarantee shall be in the form set forth in Appendix G of Appendices, or in such other form as DGPC shall have approved in writing. Any other payment shall be made after the conditions listed in the SCC for such payment have been met, and the Consultant has submitted an invoice to DGPC specifying the amount due.

**GCC.45.2.4. Interest on delayed payments**

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

**GCC.46. Fairness and Good Faith**

**GCC.46.1.** The Parties undertake to act in good faith with respect to each other's rights under this Contract and to adopt all reasonable measures to ensure the realization of the objectives of this Contract.

**GCC.46.2.** The Parties recognize that it is impractical in this Contract to provide for every contingency which may arise during the life of the Contract, and the Parties hereby agree that it is their intention that this Contract shall operate fairly as between them, and without detriment to the interest of either of them, and that, if during the term of this Contract either Party believes that this Contract is operating unfairly, the Parties will use their best efforts to agree on such action as may be necessary to remove the cause or causes of such unfairness, but no failure to agree on any action pursuant to this clause shall give rise to a dispute subject to arbitration in accordance with GCC.47 hereof.

## **GCC.47. Settlement of Disputes**

### **GCC.47.1. Adjudicator**

GCC.47.1.1. If any dispute of any kind whatsoever shall arise between DGPC and the Consultant in connection with or arising out of the Contract, including without prejudice to the generality of the foregoing, any question regarding its existence, validity or termination, or the execution of the Works— whether during the progress of the Works or after their completion and whether before or after the termination, abandonment or breach of the Contract – the Parties shall seek to resolve any such dispute or difference by mutual consultation. If the Parties fail to resolve such a dispute or difference by mutual consultation, then the dispute shall be referred in writing by either Party to the Adjudicator, with a copy to the other Party.

GCC.47.1.2. The Adjudicator shall be jointly appointed by DGPC and the Contractor under the Contract. Failing agreement between the two within thirty (30) days, the Adjudicator shall be appointed under the Contract on the request of either Party by the Appointing Authority specified in the SCC. The Adjudicator so appointed shall be by mutual consent.

GCC.47.1.3. The Adjudicator shall give its decision in writing to both Parties within thirty (30) days of a dispute being referred to it. If the Adjudicator has done so, and no notice of intention to commence arbitration has been given by either DGPC or the Consultant within fifty-six (56) days of such reference, the decision shall become final and binding upon DGPC and the Consultant. Any decision that has become final and binding shall be implemented by the Parties forthwith.

GCC.47.1.4. Should the Adjudicator resign or die, or should DGPC and the Consultant agree that the Adjudicator is not fulfilling its functions in accordance with the provisions of the Contract; another Adjudicator shall be appointed in the same manner as provided in 0.

GCC.47.1.5. The Adjudicator shall be paid fee plus expenditures incurred in the execution of its duties as Adjudicator under the Contract as specified in the SCC. These costs shall be divided equally between DGPC and the Consultant.

### **GCC.47.2. Arbitration**

GCC.47.2.1. If either DGPC or the Consultant is dissatisfied with the Adjudicator's decision, or if the Adjudicator fails to give a decision within forty-five (45) days of a dispute being referred to it, then either DGPC or the Consultant may, within sixty(60) days of such reference, give notice to the other Party, with a copy for information to the Adjudicator, of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.

GCC.47.2.2. Any dispute, in respect of which a notice of intention to commence arbitration has been given, in accordance with 0, shall be finally settled by arbitration. Arbitration may be commenced prior to or after completion of the Works.

GCC.47.2.3. Arbitration proceedings shall be conducted:

- a) in accordance with the rules of procedure designated in the SCC;
- b) in the place designated in the SCC; and
- c) in the language in which this Contract has been executed.

GCC.47.2.4. The arbitrators shall also decide on the cost of arbitration and allocation thereof. The expenses incurred by each Party in connection with the preparation and presentation of its case prior to, during and after the arbitration proceedings shall however be borne by the respective Party.

GCC.47.3. Notwithstanding any reference to the Adjudicator or arbitration herein:

- a) the Parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
- b) DGPC shall pay the Consultant any monies due to it.

GCC.47.4. The arbitration award shall be final on the Parties who shall be deemed to have accepted to carry out the resulting award without delay and to have waived their right to any form of appeal insofar as such waiver can validly be made.

**SECTION VII – SPECIAL CONDITIONS OF CONTRACT**

## SECTION VI - SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract (SCC) shall supplement and/or amend the provisions of the General Conditions of Contract (GCC). In case of any conflict or inconsistency between the GCC and the SCC, the provisions of the SCC shall prevail.

GCC Reference	Clause	Particulars
GCC.3.1		Contract shall be governed by and interpreted in accordance with the <b>Laws of the Kingdom of Bhutan.</b>
GCC.6.1 GCC.6.2	and	<p>For any notices or request, the addresses are:</p> <p><b>DGPC:</b>                      Project Manager                      Druk Green Consultancy                      Druk Green Power Corporation Limited                      Post Box No. 1351,                      Motithang, Thimphu, Bhutan                      Phone No.: +975 17555457                      Email: k.choden2666@drukgreen.bt</p> <p><b>Consultant Address:</b> _____                      Attention: _____                      Facsimile: _____                      E-mail (where permitted): _____</p>
GCC.7.1		Location where the services will be performed is: <b>As specified in the TOR</b>
GCC.8.1		The Member in Charge is: <b>shall be notified before signing of the Contract Agreement</b>
GCC.9.1		The Authorized Representatives are: <b>Both parties shall notify before signing of the Contract Agreement</b>
GCC.10.1		<p>Whether Contract Performance Guarantee (CPG) needs to be provided for the Contract: <b>Yes</b></p> <p>The terms of the CPG will be as under:</p> <ol style="list-style-type: none"> <li>1. Within thirty (30) days from the date of Letter of Award, the successful Bidder shall furnish to the DGPC, a Performance Security in the form of Bank Guarantee issued by a Financial Institute of Bhutan or any Foreign bank acceptable and enforceable in any financial institution in Bhutan for an amount of 10% (ten per cent) of the Contract Price in accordance with the conditions of the Contract.</li> <li>2. The format of the Bank Guarantee is provided in Form C of this document.</li> </ol> <p>The Performance security shall be valid thirty (30) days beyond Contract Duration. If the work gets delayed, the performance security shall be extended by such period of time without any cost to DGPC.</p>
GCC.13.1		The effective time period shall be: <b>from the date of signing of Contract Agreement.</b>
GCC.14.1		Termination for failure to become effective shall be: <b>15 days from the date of signing of Contract Agreement.</b>
GCC.15.1		The commencement of service shall be: <b>from the date of signing of Contract Agreement.</b>
GCC.16.1		The time period for expiration of contract shall be <b>12 months from the date of signing of Contract Agreement.</b>

GCC Clause Reference	Particulars																					
GCC.16.2	<p>Liquidated Damages: <b>Applicable as under:</b></p> <p>If the Consultant fails to complete the work as per the scope that would adversely affect the project schedule for want of deliverables from the Consultant, the DGPC shall serve notice for such delays to the Consultant. Without prejudice to its other remedies under the Contract, DGPC shall levy liquidated damages at the rate of <b>0.10% of the Executed Price for delay of each day</b> subject to maximum of 10% of the <b>Executed Price</b>.</p>																					
GCC.29.1	<p>Limitation of the Consultant's Liability towards DGPC:</p> <ul style="list-style-type: none"> <li>a) Except in case of gross negligence or wilful misconduct on the part of the Consultant or on the part of any person or firm acting on behalf of the Consultant in carrying out the Services, the Consultant, with respect to damage caused by the Consultant to DGPC's property, shall not be liable to DGPC: <ul style="list-style-type: none"> <li>i) for any indirect or consequential loss or damage; and</li> <li>ii) for any direct loss or damage that exceeds by 1.1 times the total value of the Contract.</li> </ul> </li> <li>b) This limitation of liability shall not affect the Consultant's liability, if any, for damage to Third Parties caused by the Consultant or any person or firm acting on behalf of the Consultant in carrying out the Services.</li> </ul>																					
GCC.30.1	<p>The risks and the coverage shall be as follows:</p> <ul style="list-style-type: none"> <li>a) Professional liability insurance with a minimum coverage of One (1) times of Contract Price;</li> <li>b) Third Party motor vehicle liability insurance in respect of motor vehicles operated in Bhutan by the Consultant or its Experts or Sub-consultants, with a minimum coverage in accordance with the applicable laws in Bhutan;</li> <li>c) Employer's liability and workers' compensation insurance in respect of the Personnel of the Consultant and of any Sub-Consultants, in accordance with the relevant provisions of the Applicable Laws of Bhutan, as well as, with respect to such Personnel, any such life, health, accident, travel or other insurance as may be appropriate; and</li> <li>d) Insurance against loss of or damage to (i) equipment purchased in whole or in part with funds provided under this Contract, (ii) the Consultant's property used in the performance of the Services, and (iii) any documents prepared by the Consultant in the performance of the Services.</li> </ul>																					
GCC.34.1	<p>The Consultant shall not use these documents and software for purposes unrelated to this Contract without the prior written approval of DGPC.</p>																					
GCC.41.1	<p>Resident Project Manager: <b>(Refer ToR)</b></p>																					
GCC.42.1 (g)	<p>DGPC shall provide to the Consultant, Sub-Consultants and Personnel any such other assistance: <b>Refer ToR</b></p>																					
GCC. 45.2.3	<p>Terms and Condition of Payment: The payment shall be released based on achievement of the milestone as below:</p> <table border="1" data-bbox="456 1760 1342 2029"> <thead> <tr> <th>Milestone as per ToR</th> <th>Description</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Milestone 1</td> <td>T* + 2 months</td> <td>10</td> </tr> <tr> <td>Milestone 2</td> <td>T + 5 months</td> <td>30</td> </tr> <tr> <td>Milestone 3</td> <td>T + 10 months</td> <td>30</td> </tr> <tr> <td>Milestone 4</td> <td>T + 11 months</td> <td>10</td> </tr> <tr> <td>Milestone 5</td> <td>T + 12 months</td> <td>10</td> </tr> <tr> <td>Final Payment</td> <td>Issuance of final completion certificate</td> <td>10</td> </tr> </tbody> </table>	Milestone as per ToR	Description	%	Milestone 1	T* + 2 months	10	Milestone 2	T + 5 months	30	Milestone 3	T + 10 months	30	Milestone 4	T + 11 months	10	Milestone 5	T + 12 months	10	Final Payment	Issuance of final completion certificate	10
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GCC Clause Reference	Particulars
	<p><i>*T= date of signing of Contract Agreement</i></p> <p>Advance payment: If the Consultant desires to avail advance payment, ten percent (10%) of the contract price shall be paid by the client against submission of unconditional bank guarantee from financial institutions of Bhutan for the same amount after signing of the Contract Agreement. The advance payment shall be recovered on pro-rata basis from the milestone payment such that full advance amount is recovered at the time of releasing the 4<sup>th</sup> milestone payment.</p> <p><i>Notes: Reimbursable Expenses shall be paid as per actual expenditures incurred by the Consultant.</i></p>
GCC.45.2.4	Interest on delayed payments: <b>Not Applicable</b>
GCC.47	<p><b>Settlement of Disputes:</b></p> <p>The Parties will endeavour to resolve by mutual negotiation any dispute, differences, controversy or claims arising out of or in relation to this Contract, including the scope, validity, existence and the interpretation hereof, the activities performed hereunder, or for the breach hereof, arising between them in connection with this Contract. If the dispute or difference cannot be resolved in this manner within sixty (60) days of the notice by either Party of a dispute having arisen, the Parties shall arrange a meeting between appropriate senior executives designated by each Party, who shall have an additional thirty (30) days to resolve the dispute or difference.</p> <p>Subject to the above, any and all disputes, differences, controversies or Claims arising out of or in relation to this Contract, including the scope, validity, existence and the interpretation hereof, the activities performed hereunder, or for the breach hereof, which cannot be satisfactorily resolved by mutual negotiation</p> <p>(i) Any dispute arising out of or in connection with this Contract, including any question regarding its existence, validity or termination, shall be referred to and finally resolved by arbitration administered by the International Chambers of Commerce (“ICC”) in accordance with the arbitration rules of the International Chambers of Commerce (“ICC Rules”) for the time being in force, which rules are deemed to be incorporated by reference to this Article.</p> <p>(ii) The seat and venue of arbitration shall be Bhutan. The tribunal shall consist of three arbitrators. The language of the arbitration shall be English.</p>

## SECTION VIII – CONTRACT FORMS

- A. Form of Letter of Award
- B. Form of Contract
- C. Appendices
  - Description of Services
  - Reporting Requirements
  - Key personnel and Sub-Consultants
  - Duties of DGPC
  - Form of Advance Payment Guarantee

**A – Form of Letter of Award**

**TIME-BASED/ LUMP-SUM** (*AS APPLICABLE. RELEVANT CHANGES NEEDS TO BE MADE IN GCC AND SCC ALSO*)

Reference No. ....  
Date.....

To  
[Name and Address of the Consultant]

Dear Sirs,

This is to notify you that your Bid dated..... for execution of the .....  
..... *[Name of the Contract and Tender No., as given in ITB]* for the  
Contract Price of ..... *[Name of the currency and amount in words and  
figures as corrected and modified in accordance with the ITB]* is hereby accepted by DGPC.

You are hereby requested to furnish Contract Performance Security, in the form detailed in GCC.10 for an amount of .....*[insert amount of performance security]*..... within Thirty (30) days of the receipt of this Letter of Award and the validity of the Contract Performance Security shall be up to .....*[insert validity]*.....

Failure to submit the Contract Performance Security within the period stipulated above shall constitute a ground for the annulment of the award and entail forfeiture of Bid Security.

This letter is being issued to you in duplicate. Please retain one copy for your records and return the other copy to DGPC after recording on the letter “Accepted Unconditionally” under the signature of the authorised signatory.

Please acknowledge receipt.

Yours faithfully,

Signature  
[Name and title of signatory]  
[DGPC’s address]

**B – Form of Contract**

**TIME-BASED/ LUMP-SUM** (AS APPLICABLE. RELEVANT CHANGES NEEDS TO BE MADE IN GCC AND SCC ALSO)

(Text in brackets [ ] is optional; all notes should be deleted in final text)

This CONTRACT (hereinafter called the “Contract”) is made the [day] day of the month of [month], [year], between, on the one hand, [full name of DGPC] (hereinafter called “DGPC”) and, on the other hand, [name of Consultant] (hereinafter called the “Consultant”).

[Note: If the Consultant consists of more than one entity, the above should be partially amended to read as follows: “... (hereinafter called “DGPC”) and, on the other hand, a joint venture/consortium/association consisting of the following entities, each of which will be jointly and severally liable to DGPC for all the Consultant’s obligations under this Contract, namely, [name of Consultant] and [name of Consultant] (hereinafter called the “Consultant”).]

WHEREAS

- (a) DGPC has requested the Consultant to provide certain consulting services as defined in this Contract (hereinafter called the “Services”);
- (b) the Consultant, having represented to DGPC that he has the required professional skills, personnel and technical resources, has agreed to provide the Services on the terms and conditions set forth in this Contract;

NOW THEREFORE the parties hereto hereby agree as follows:

1. The following documents attached hereto shall be deemed to form an integral part of this Contract:
  - I. Letter of Award
  - II. The General Conditions of Contract;
  - III. The Special Conditions of Contract;
  - IV. 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]

Appendix A	Description of Services	Insert “Not Used” as per Note above if Appendix is not used.
Appendix B	Reporting Requirements	Insert “Not Used” as per Note above if Appendix is not used.
Appendix C (For Time-Based Contracts)	Personnel and Sub- Consultant – Hours of Work for Key Personnel	Insert “Not Used” as per Note above if Appendix is not used.
Appendix C (For Lump-Sum Contracts)	Key Personnel and Sub- Consultant	Insert “Not Used” as per Note above if Appendix is not used.
Appendix D	Duties of DGPC	Insert “Not Used” as per Note above if Appendix is not used.
Appendix E	Form of Advance Payments Guarantee	Insert “Not Used” as per Note above if Appendix is not used.

2. The mutual rights and obligations of DGPC and the Consultant shall be as set forth in the Contract, in particular:

- (a) the Consultant shall carry out the Services in accordance with the provisions of the Contract; and
- (b) DGPC shall make payments to the Consultant in accordance with the provisions of the Contract.

3. The Contract amount between DGPC and the Consultant shall be .....

IN WITNESS WHEREOF, the Parties hereto have caused this Contract to be signed in their respective names as of the day and year first above written.

**Sealed and Signed by both parties**

APPENDIX A – DESCRIPTION OF SERVICES

**Note:**

- **For Time-Based Contracts:** *This Appendix will include the final Terms of Reference agreed by DGPC and the Consultant during technical negotiations, dates for completion of various tasks, place of performance for different tasks, specific tasks to be approved by DGPC, etc.*
- **For Lump-Sum Contracts:** *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 DGPC, etc.*

## APPENDIX B – REPORTING REQUIREMENTS

**Note:** *List format, frequency and contents of reports; persons to receive them; dates of submission; etc.*

## APPENDIX C – KEY PERSONNEL AND SUB-CONSULTANTS

### *(i) For Time-Based Contracts*

**Note:** List under:

- C-1 Titles [and names, if already available], detailed job descriptions and minimum qualifications of Key Foreign Personnel to be assigned to work in Bhutan, and staff-months for each
- C-2 Same information as C-1 for Key Local Personnel
- C-3 Same as C-1 for Key Personnel to be assigned to work outside Bhutan
- C-4 List of approved Sub-Consultants (if already available). Same information with respect to their Personnel as in C-1 through C-3.

List here the hours of work for Key Personnel; travel time to and from Bhutan for Foreign Personnel (GCC.39.1);

### *(ii) For Lump-Sum Contracts*

**Note:** List under:

- C-1 Titles [and names, if already available], detailed job descriptions and minimum qualifications of Key Foreign Personnel to be assigned to work in Bhutan, and estimated staff-months for each.
- C-2 Same information as C-1 for Key Local Personnel
- C-3 Same as C-1 for Key Personnel to be assigned to work outside Bhutan
- C-4 List of approved Sub-Consultants (if already available). Same information with respect to their Personnel as in C-1 through C-3.

## APPENDIX D – COST ESTIMATES IN FOREIGN CURRENCY (FOR TIME BASED CONTRACT)

**Note:** List hereunder cost estimates in foreign currency:

1.
  - a. *Monthly rates for Foreign Personnel (Key Personnel and other Personnel) separately for each Personnel*
  - b. *Monthly rates for Local Personnel (Key Personnel and other Personnel), if applicable separately for each Personnel*
2. *Reimbursable expenses*
  - a. *Per Diem allowances for each of the Foreign or Local Personnel for every day in which such Personnel shall be absent from their home office and shall be outside Bhutan*
  - b. *Air transport for Foreign Personnel:*
    - i. *the cost of international transportation of the foreign Personnel by the most appropriate means of transport and the most direct practicable route to and from the Consultant's home office; in the case of air travel, this shall be by less than first class;*
    - ii. *for any foreign Personnel spending twenty-four (24) consecutive months or more in Bhutan, one extra round trip will be reimbursed for every twenty-four (24) months of assignment in Bhutan. Such Personnel will be entitled to such extra round trip only if upon their return to Bhutan they are scheduled to serve for the purposes of the Project for a further period of not less than six (6) consecutive months.*
  - c. *Air transport for dependents: the cost of transportation to and from Bhutan of eligible dependents who shall be the spouse and not more than two (2) unmarried dependent children under eighteen (18) years of age of those of the Foreign Personnel assigned to resident duty in Bhutan for the purpose of the Services for periods of twelve (12) consecutive months or longer, provided that the stay of such dependents in Bhutan shall be for not less than three (3) consecutive months duration. If the assignment period for resident staff of the Foreign Personnel will be thirty (30) months or more, one extra economy class air trip for their eligible dependents for every twenty-four (24)-month assignment will be reimbursed.*
  - d. *The cost of printing, reproducing and shipping of the documents, reports, drawings, etc.*
  - e. *The cost of acquisition, shipment and handling of the following equipment, instruments, materials and supplies required for the Services, to be imported by the Consultant and to be paid for by DGPC (including transportation to Bhutan):*  
  
*(list the relevant equipment, instruments, materials and supplies)*
  - f. *The cost of transport of personal effects.*
  - g. *The rate for the programming, use of, and communications between, the computers and peripherals used for the purpose of the Services.*
  - h. *The cost of laboratory tests on materials, model tests and other technical services authorized or requested by DGPC.*
  - i. *The foreign currency cost of any subcontract required for the Services and approved in writing by DGPC.*
  - j. *The cost of training of DGPC's personnel outside Bhutan, if training is a major component of the assignment, and is specified as such in the TOR.*

- k. *The cost of such further items not covered in the foregoing but which may be required by the Consultant for the purpose of the Services, subject to the prior authorization in writing by DGPC.*

**APPENDIX D – BREAKDOWN OF CONTRACT PRICE IN FOREIGN CURRENCY (FOR LUMP SUM CONTRACT)**

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

1. *Monthly rates for Personnel (Key Personnel and other Personnel), separately for each Personnel*
2. *Reimbursable expenses. With Nature of Expenses and ceiling limits for such expenses per visit with no of visits for total assignment*

*This appendix will exclusively be used for determining remuneration for additional services.*

## **APPENDIX E – COST ESTIMATES IN LOCAL CURRENCY (FOR TIME BASED CONTRACT)**

**Note:** List hereunder cost estimates in local currency:

1. Monthly rates for local Personnel (Key Personnel and other Personnel) separately for each Personnel
2. Reimbursable expenses
  - a. Per Diem rates for subsistence allowance for foreign short-term Personnel:
    - i. per diem allowance in local currency equivalent to [name agreed foreign currency specified in 0] per day, plus estimated totals, for each of the short-term Foreign Personnel (i.e., with less than twelve (12) months consecutive stay in Bhutan) for the first ninety (90) days during which such Personnel shall be in Bhutan;
    - ii. per diem allowance in local currency equivalent to [name agreed foreign currency specified in 0] per day, plus estimated totals, for each of the short-term Foreign Personnel for each day in excess of ninety (90) days during which such Personnel shall be in Bhutan.
  - b. Per Diem allowance for each of the long-term Foreign Personnel (twelve (12) months or longer consecutive stay in Bhutan), plus estimated totals.
  - c. The cost of local transportation.
  - d. The cost of the following locally procured items: office accommodations, camp facilities, camp services, subcontracted services, , equipment rentals, supplies, utilities and communication charges arising in Bhutan, all if and to the extent required for the purpose of the Services.
  - e. The cost of equipment, materials and supplies to be procured locally in Bhutan.
  - f. The local currency cost of any subcontract required for the Services and approved in writing by DGPC.
  - g. The cost of training of DGPC's staff in Bhutan, if training is a major component of the assignment, specified as such in the TOR.
  - h. The cost of such further items not covered in the foregoing but which may be required by the Consultant for the purpose of the Services, as agreed in writing by DGPC.
3. Per Diem rates for subsistence allowance for Local Key Personnel:
  - a. Per Diem rates for each local personnel if they have to travel outside their home office

**APPENDIX E – BREAKDOWN OF CONTRACT PRICE IN LOCAL CURRENCY (FOR  
LUMP SUM CONTRACT)**

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

1. *Monthly rates for Personnel (Key Personnel and other Personnel) separately for each Personnel*
2. *Reimbursable expenses. Nature of Expenses and ceiling limits for such expenses per visit with no of visits for total assignment*

*This appendix will exclusively be used for determining remuneration for additional services.*

## APPENDIX F – DUTIES OF DGPC

**Note:** List the facilities proposed to be provided to the Consultant:

- F-1 *Services, facilities and property to be made available to the Consultant by DGPC.*
- F-2 *Professional and support counterpart personnel to be made available to the Consultant by DGPC.*

**APPENDIX G – FORM OF PERFORMANCE SECURITY**

**PROFORMA FOR PERFORMANCE SECURITY**

To

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Whereas (Name of the Consultant) herein after called the “Consultant” has undertaken \_\_\_\_\_  
\_\_\_\_\_(Name of works) in pursuance of Contract No. \_\_\_\_\_  
\_\_\_\_\_dated.....herein after called the “Contract”.

AND WHEREAS it has been stipulated by you in the Contract that the Consultant shall furnish you with a Bank Guarantee by .....(Name of the Bank) for the sum of .....(specify amount) as security for compliance with the Consultant’s performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Consultant a guarantee; therefore we hereby affirm that we are guarantors and responsible to you, on behalf of the Consultant, up to a total of (amount of guarantee in words and figures) and we undertake to pay you, upon your first written demand declaring the Consultant to be in default under the Contract, and without cavil or argument, any sum or sums as specified by you, within the limit if.....as aforesaid , without your needing to prove or show grounds or reasons for your demand or the sum specified therein.

The guarantee is valid until \_\_\_\_\_Day of\_\_\_\_\_

[NAME OF GUARANTOR]

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Name)

\_\_\_\_\_

Authorized Representative

Date: \_\_\_\_\_

Address: \_\_\_\_\_

## APPENDIX H – FORM OF ADVANCE PAYMENT GUARANTEE

**Note:** See 0 (a) for **Time-Based Contracts** and 0 for **Lump-Sum Contracts**.

### Bank Guarantee for Advance Payment

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

**Beneficiary:** \_\_\_\_\_ [Name and Address of DGPC]

**Date:** \_\_\_\_\_

**ADVANCE PAYMENT GUARANTEE No.:** \_\_\_\_\_

We have been informed that \_\_\_\_\_ [name of Consultant] (hereinafter called "the Consultant") has entered into Contract No. \_\_\_\_\_ [reference number of the Contract] dated \_\_\_\_\_ with you, for the provision of \_\_\_\_\_ [brief description of Services] (hereinafter called "the Contract"). Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum of \_\_\_\_\_ [amount in figures] () [amount in words] is to be made against an advance payment guarantee.

At the request of the Consultant, we \_\_\_\_\_ [name of Bank hereinafter called "Guarantor"] hereby irrevocably undertake to pay you any sum or sums not exceeding in total amount of \_\_\_\_\_ [amount in figures][amount in words]<sup>1</sup> upon receipt by us of your or from your authorized representative first demand in writing accompanied by a written statement stating that the Consultant is in breach of its obligation under the Contract.

It is a condition for any claim and payment under this guarantee to be made that the advance payment referred to above must have been received by the Consultant in its account number \_\_\_\_\_ at \_\_\_\_\_ [name and address of Bank].

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Consultant as indicated in copies of certified monthly statements which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of the monthly payment certificate indicating that the Consultant has made full repayment of the amount of the advance payment, or on the \_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, <sup>2</sup> whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date. The Guarantor agrees for extension of this guarantee in response to DGPC's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

\_\_\_\_\_  
[Signature]

*Note: All italicized text is for indicative purposes only to assist in preparing this form and shall be deleted from the final product.*

<sup>1</sup> The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency or currencies of the advance payment as specified in the Contract.

<sup>2</sup> Insert the expected expiration date. In the event of an extension of the time for completion of the Contract, DGPC 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

**SECTION IX – PERFORMANCE EVALUATION SYSTEM**

## SECTION VII – PERFORMANCE EVALUATION SYSTEM

### 1 INTRODUCTION

A consultant performance evaluation is a standardized, systematic and objective assessment of a consultant’s performance on a specific project contract. This enables DGPC to judge whether the consultant has performed the work to a high standard on a number of fronts, and whether it is worth engaging them for future projects.

The performance evaluation criteria shall be used by each Project Manager immediately with the commissioning of any services after the award of contract. The consultants shall be evaluated as the project progresses.

### 2 OBJECTIVES

The main objectives of the performance evaluation of Consultants for services are as follows:

- To adopt a more holistic approach in reviewing overall performance of Consultant;
- To work with Consultant to raise safety and quality standards;
- To encourage an environment of continuous improvement by Consultant;
- To build partnership with Consultant in specific and strategic areas; and
- To have a list of preferred Consultant to be selected for limited bidding process

### 3 PERFORMANCE EVALUATION SYSTEM (PES)

The assessment of the Consultants shall be done as follows:

SN	Performance Criteria	Weightage
3.1	Scope Management	15%
3.2	Time Management	20%
3.3	Quality Management	30%
3.4	General Assessment	35%
<b>Total</b>		<b>100%</b>

#### 3.1 Scope Management (15%)

SN	Evaluation Criteria	Score	Key performance measure	Remarks
3.1.1	Commencement	5%	✓ Early= 120% ✓ On time=100% ✓ Late=0%	As per the contract agreement
3.1.2	Work Schedule	5%	On time =100% or else 0%	As per contract agreement
3.1.3	Resource deployment	5%	Full deployment = 100% or else 0%	As per contract agreement

#### 3.2. Time Management (20%)

SN	Evaluation Criteria	Score	Key performance measurement	Remarks
3.2.1	Meeting Milestones/ Deliverables	5%	✓ On time = 100% ✓ Delay up to 20% = 80% ✓ Beyond 20% = 0%	To be measured as per the work schedule submitted.
3.2.2	Submission of revised work schedules	5%	Timely= 100% or else 0%	To be measured based on the written request

				made by the Project Manager
3.2.3	Timely response to Client's instruction	5%	<ul style="list-style-type: none"> <li>✓ 100% response = 100%.</li> <li>✓ 80% response = 80%.</li> <li>✓ Less than 80% response = 0%</li> </ul>	Calculation will be based on the number of request made by the Project Manager/Project Engineer.
3.2.4	Problem identification and problem solving	5%	Timely intimation = 100 % or 0%	Timely intimation resulting in resolving of problems during the contract period.

### 3.3. Quality Management (30%)

SN	Evaluation Criteria	Score	Key performance measurement	Remarks
3.3.1	Compliance to TOR	10%	<ul style="list-style-type: none"> <li>✓ Strict adherence =100%</li> <li>✓ With minor deviations= 80%</li> <li>✓ Frequent non-compliance= 0%</li> </ul>	<ul style="list-style-type: none"> <li>✓ Minor deviations would mean deviations which does not lead to major issues to the project.</li> <li>✓ Frequent non-compliance would mean non-compliance leading to delays.</li> </ul>
3.3.2	Response to Non Compliance, Complaints and Notices	10%	<ul style="list-style-type: none"> <li>✓ 100% response = 100%.</li> <li>✓ 80% response = 80%.</li> <li>✓ Less than 80% response = 0%</li> </ul>	Calculation will be based on the number of request made by the Project Manager.
3.3.3	Innovation and alternate option/design solution during the course of work.	5%	<ul style="list-style-type: none"> <li>✓ Yes = 100%</li> <li>✓ No=0%</li> </ul>	
3.3.4	Overall quality of the design, reports and presentation	10%	<ul style="list-style-type: none"> <li>✓ Excellent = 100%</li> <li>✓ Good with comments =50%</li> <li>✓ Poor or rejected = 0%</li> </ul>	

### 3.4. General Assessment (35%)

SN	Evaluation Criteria	Score	Key performance measurement	Remarks
3.5.1	Cooperation and Coordination with Employer	4%	<ul style="list-style-type: none"> <li>✓ Excellent = 100%</li> <li>✓ Good = 50%</li> <li>✓ Poor = 0%</li> </ul>	To be rated on the promptness of the Contractor on resolution of any issue and on following the guidelines set in the Contract Document. Also on the

SN	Evaluation Criteria	Score	Key performance measurement	Remarks
				communication, returning of phone calls or replying of emails.
3.5.2	Personnel Resource Management	5%	Availability of proposed professional = 100% or else 0%	As per the staffing schedule submitted and agreed between both the parties.
3.5.3	Technical Competence	10%	<ul style="list-style-type: none"> <li>✓ Excellent (resolves issues by themselves)= 100%</li> <li>✓ Good (with discussion with Client) = 50%</li> <li>✓ Poor (solutions given by the Client)= 0%</li> </ul>	The ability of the consultant to resolve an issue and notifying the Client on the same.
3.5.4	Integrity and Ethical Conduct	4%	Zero written complaints = 100% or else 0%	
3.5.5	Accurate communication	4%	<ul style="list-style-type: none"> <li>✓ Excellent=100%</li> <li>✓ Good= 80%</li> <li>✓ Poor = 0%</li> </ul>	An excellent communication would mean returning calls and emails before the day ends.
3.5.6	Trainings and back up services	4%	Survey to be conducted = 100% or else 0%	
3.5.7	Problem Resolution	4%	<ul style="list-style-type: none"> <li>✓ Excellent= 100%</li> <li>✓ Good (needs to be prompted twice)= 50%</li> <li>✓ Poor (always needs to be prompted) = 0</li> </ul>	An excellent Consultant would mean being proactive and providing problem resolution without the need of being prompted.

#### 4 CONSULTANT ASSESSMENT CATEGORY

The Consultants shall be categorized into three categories as under:

Category	Score	Remarks
A	80-100	Recommended/Preferred Consultants
B	50-79	<ul style="list-style-type: none"> <li>✓ Consultants must be developed;</li> <li>✓ Consider, but with mandatory debriefing on the short comings.</li> </ul>
C	0-49	Consultants not qualified

#### 5 EVALUATION PERIOD AND DEBARMENT

##### 5.1 Evaluation period

The Performance evaluation shall be carried out after the award of any service till its closure.

##### 5.2 Debarment of Consultants

Based on the assessment of consultants at the closure of each project, all non-performing Consultants shall be referred to the Debarment Committee as per the Debarment Rules 2019 of RGoB. The non-performing Consultants falling under category B and C shall be subjected to referral to the Debarment Committee and the decision of the Committee shall be final and binding.

## Annexure II - Terms of Reference

### Consultancy Services for Preparation of Detailed Project Report (DPR) including Environmental and Social Impact Assessment (ESIA) for the Khomachhu Hydropower Project in Bhutan

#### 1 INTRODUCTION

The Pre-Feasibility Study (PFS) of the Khomachhu Hydropower Project was conducted by Norplan in June 2011 under the supervision of the Department of Energy, Ministry of Energy and Natural Resources. This study, hereafter referred to as PFS 2011, provided the initial technical assessment of the project.

The Khomachhu Hydropower Project is located in Lhuentse Dzongkhag, in the northeastern region of Bhutan. It is situated on the Khomachhu River, upstream of its confluence with the Kurichhu River. According to PFS 2011, the proposed intake site is located approximately 8 kilometers upstream of Khoma village. The design included an underground powerhouse near Khoma village, with the tailrace outlet discharging into the Kurichhu River, about 1 kilometer downstream of the Khomachhu-Kurichhu confluence.

The location is shown on the Figure 1 below:

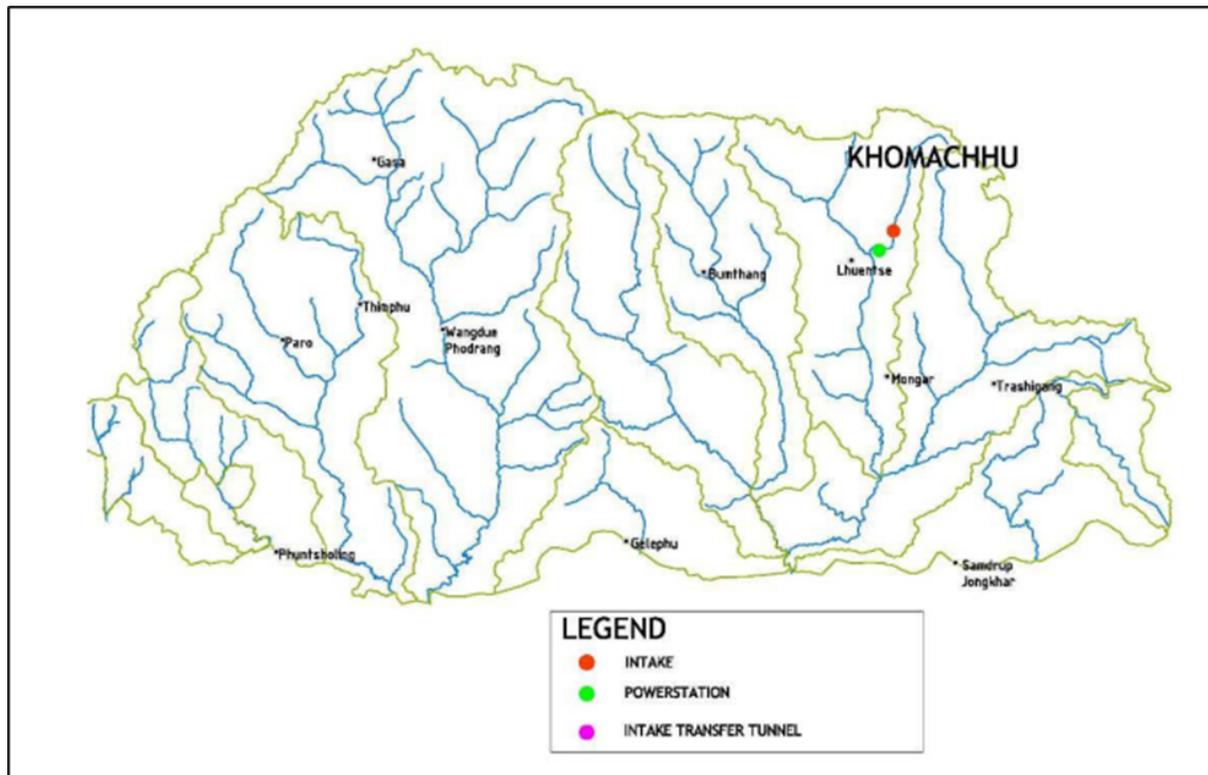


Figure 1: Project location and project component

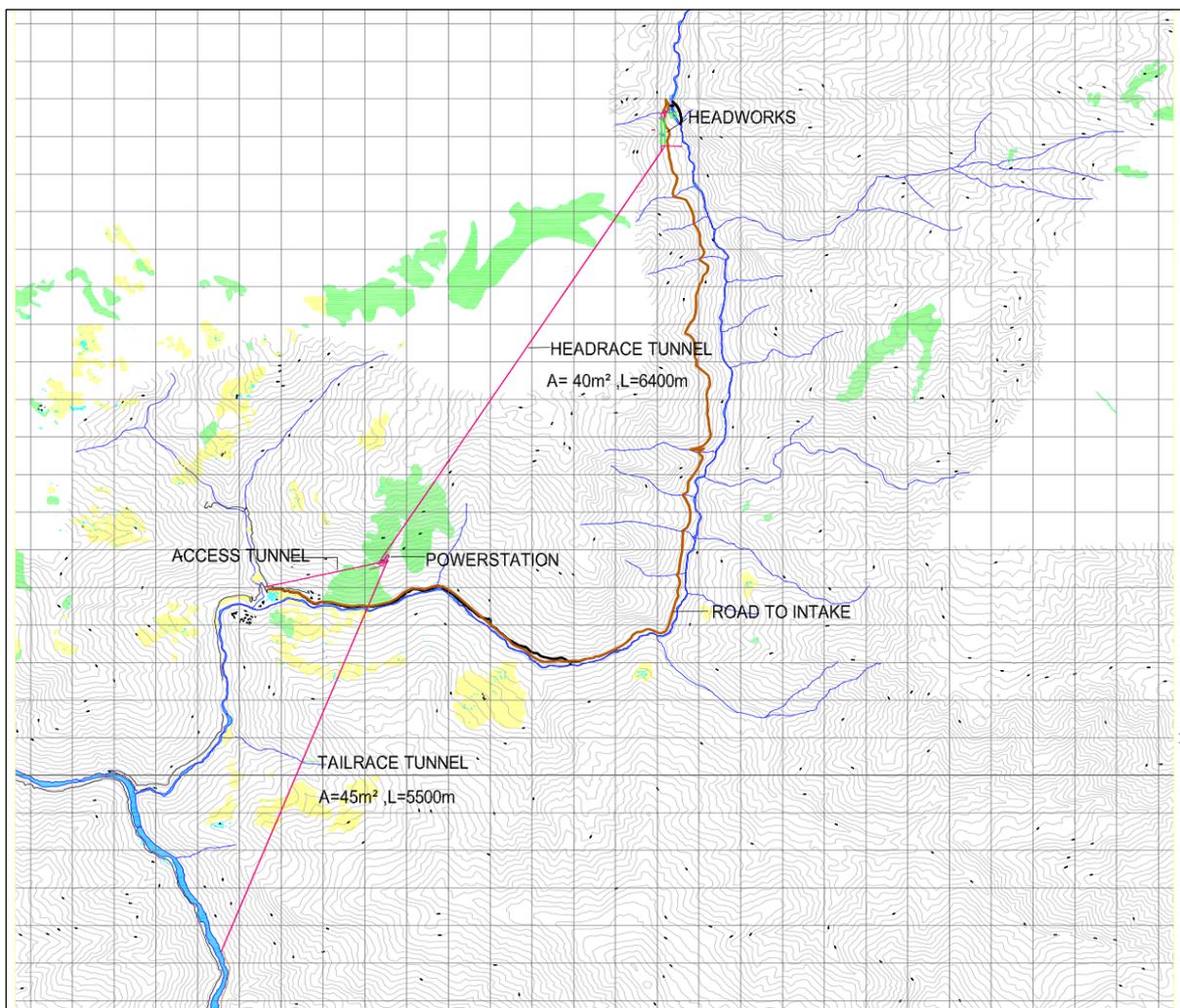
As per the PFS 2011, the project envisages an installed capacity of 363 MW with an estimated total annual energy generation of 1,415 GWh. The layout and salient features of the project, based on PFS 2011, are outlined to provide the foundational basis for the current Feasibility Study and further optimization.

#### Salient features of the project

Catchment area	km <sup>2</sup>	455
Maximum Water Level (MWL)	masl	1,970
Full Reservoir Level (FRL)	masl	1,965

Minimum Operating Level (MOL)	masl	1,960
Dam type	-	Concrete gravity dam
Crest length of dam	m	100
Riverbed level at dam site	masl	1,950
Maximum height of dam above deepest foundation	m	15
Length of penstock	m	100
Powerhouse (underground)	m	80x 18 x 35
Installed capacity	MW	363
Design discharge	m <sup>3</sup> /s	54
Centerline of turbine	masl	1,180
Rated net head	m	780
Design energy in 90% dependable year	MU	1,415

Figure 2: Project layout



The approximate coordinates are presented in the Table 2 below.

	Latitude (N)	Longitude (E)
Dam - Intake	27°45'02"	91°16'31"
Powerhouse	27°41'29"	91°14'00"

Tailrace Tunnel outlet	27°38'45"	91°13'05"
------------------------	-----------	-----------

The powerhouse site is accessible by motorable road while the dam site is located at about 8 km away from the nearest roadhead.

The Royal Government of Bhutan entrusted the Druk Green Power Corporation (DGPC) with the responsibility of undertaking detailed feasibility studies for the Khomachhu Hydropower Project. Acting on this mandate, DGPC reviewed the Pre-Feasibility Study (PFS) conducted in 2011 and proceeded with a preliminary assessment and optimization of the project layout.

Following the assessment and a subsequent site visit, DGPC proposed a significant change in the project design - relocating the powerhouse upstream of the site identified in the 2011 PFS. This adjustment aims to construct a surface powerhouse instead of the originally proposed underground powerhouse with long tailrace tunnel. The decision was primarily driven by the need to shorten the tailrace tunnel, enhance overall project efficiency, and reduce potential social impacts.

With this revised layout in place, DGPC has initiated geotechnical investigations to support the updated design. The topographical survey has already been completed, and exploratory core drilling and drifting activities (at the dam site) are currently in progress. The status of investigations being undertaken by DGPC is attached to this TOR.

## **2 OBJECTIVE OF THE CONSULTANCY SERVICES**

The primary objective of the consultancy services for the Khomachhu Hydropower Project is to prepare a comprehensive Detailed Project Report (DPR) and an Environmental and Social Impact Assessment (ESIA). While Druk Green Power Corporation (DGPC) will undertake several core activities - such as surveys, geotechnical investigations, drifting, hydrological studies, and infrastructure planning - through its internal team, the more specialized aspects of design and engineering will be carried out by a qualified Consultant.

The Consultant's responsibility will be to ensure that the DPR is aligned with international standards and best practices, making it technically sound, financially bankable, and fully compliant with the Bhutan Guidelines for Development of Hydropower Projects 2018 (Revised 2024). The Consultant will also play a vital role in validating the work completed by DGPC and providing necessary technical guidance throughout the process.

Beyond the engineering and technical scope, the Consultant will be tasked with preparing an ESIA that meets the international safeguard requirements of multilateral development banks, including the World Bank and the Asian Development Bank. The ESIA must reflect the scale and significance of the project's potential environmental, economic, and social impacts. It should identify potential risks and outline appropriate strategies for avoidance, minimization, or mitigation. Furthermore, the Consultant will develop comprehensive management plans to address adverse impacts and recommend measures to enhance the project's overall environmental and socio-economic benefits.

An essential component of this consultancy is the establishment of a collaborative and effective working relationship between DGPC's engineers and the Consultant's team. This partnership will be instrumental in ensuring the successful completion of the DPR and in facilitating the transfer of technical expertise and knowledge to DGPC, thereby strengthening its institutional capacity.

## **3 SCOPE OF CONSULTANCY SERVICES**

The scope of consultancy services for the Khomachhu Hydropower Project has been broadly structured into two main components, outlining the responsibilities and activities to be undertaken by both the Consultant and Druk Green Power Corporation (DGPC).

### **3.1 Technical Design and Engineering Consultancy**

This component covers all activities related to the technical design and engineering aspects of the project. The Consultant will be responsible for preparing the detailed engineering designs, validating the technical work conducted by DGPC, and ensuring that all outputs meet international standards and the revised Bhutan Hydropower Development Guidelines of 2024. The Consultant will also provide technical support and capacity-building inputs to DGPC throughout the DPR preparation process.

The technical design and engineering consultancy for the Khomachhu Hydropower Project has been divided into two primary task categories: those to be conducted by Druk Green Power Corporation (DGPC) and validated by the Consultant, and those to be executed directly by the Consultant.

### **3.1.1 Task I: Activities by DGPC, to be Validated by the Consultant**

DGPC will carry out several key preliminary investigations and preparatory studies. These include:

- i) Conducting field topographical surveys and mapping to define the physical layout of the project area.
- ii) Executing geological and geotechnical investigations, which comprise geo-mapping, geophysical surveys, lineament mapping, borehole drilling, exploratory drifting, various tests, and assessments of construction materials. The Consultant will provide expert guidance during these stages.
- iii) Performing hydrological studies, including water availability assessments and the estimation of design and diversion floods.
- iv) Planning and reviewing infrastructure and construction facilities.

While DGPC undertakes these tasks, the Consultant will play a critical role in reviewing the work, ensuring its alignment with the required standards. The Consultant must provide sufficient expert resources and will be held fully responsible for the adequacy and quality of these foundational inputs, as they form the basis for the detailed design and engineering of the project.

### **3.1.2 Task II: Activities to be Performed by the Consultant**

The Consultant will undertake the following specialized design and engineering tasks:

1. Conduct project layout planning and alternative analyses.
2. Carry out power potential assessments and optimization studies.
3. Prepare detailed geological and geotechnical appraisal reports, including models, cross-sections, notes, and drawings.
4. Develop a comprehensive Geotechnical Baseline Report (GBR).
5. Conduct sedimentation studies.
6. Perform hydraulic and structural analyses, including plant optimization through numerical modeling and instrumentation planning.
7. Undertake site-specific seismic hazard assessments and determine design parameters.
8. Carry out advanced 2D and 3D linear and non-linear dynamic FEM analyses of dams using acceleration time histories.
9. Conduct transient analysis of the hydropower system.
10. Assess reservoir rim stability and propose appropriate remedial measures.
11. Study Glacial Lake Outburst Flood (GLOF) risks.
12. Conduct dam break analysis, including hazard zonation and classification using appropriate modeling tools.
13. Design the electro-mechanical equipment for the project.
14. Design the hydro-mechanical equipment.
15. Define the construction methodology, plan equipment use, and develop a detailed project schedule.
16. Prepare comprehensive engineering drawings and design notes for the tender stage.
17. Perform a power evacuation study.
18. Carry out a power market analysis.
19. Develop the project cost estimate.
20. Conduct financial and economic analysis.
21. Propose a contract strategy suited to the project.
22. Perform a risk analysis, including an integrated geo-hazard assessment.

### **3.2 Environmental and Social Impact Assessment (ESIA) Consultancy**

The second component of the project focuses on environmental and social safeguards. Under this component, the Consultant will be responsible for preparing a comprehensive Environmental and Social Impact Assessment (ESIA). This assessment must comply with the environmental clearance requirements set forth by the Department of Environment and Climate Change, as well as adhere to the safeguard standards of multilateral development banks, including the World Bank and the Asian Development Bank.

In addition to preparing the ESIA, the Consultant will assist DGPC in obtaining all necessary environmental and social permits required for the project's implementation. This includes, but is not limited to, securing the Forestry Clearance Permit. Furthermore, the Consultant will be tasked with developing appropriate mitigation and enhancement measures to address both the adverse and beneficial impacts identified during the assessment.

In alignment with national guidelines and international best practices, the ESIA process requires the collection of environmental data across three distinct seasons to ensure a comprehensive understanding of the project's potential impacts. DGPC has already initiated the collection of this baseline data. The current status of this data collection effort is provided in the annex to this Terms of Reference.

## **4 ELABORATED TASK DESCRIPTIONS FOR TECHNICAL DESIGN AND ENGINEERING CONSULTANCY**

### **4.1 Task I.1: Field Topographical Survey & Mapping**

DGPC shall be responsible for conducting detailed topographical surveys and mapping of the project area. This includes terrain mapping using total stations, or GPS methods where applicable, to generate high-resolution contour maps and digital elevation models (DEMs). The Consultant is expected to review the methodologies, tools used, and the accuracy of the data collected. Upon submission of the digital survey outputs by DGPC, the Consultant shall validate the adequacy of the coverage, the accuracy of contour levels, key project component identification, and compatibility with the project layout. The Consultant shall provide recommendations for additional surveys if any gaps are identified.

### **4.2 Task I.2: Field Geological & Geotechnical Investigations and Tests**

DGPC will conduct extensive geological and geotechnical investigations, including surface and subsurface assessments such as geological mapping, lineament mapping, core drilling, exploratory drifting, permeability testing, geophysical surveys, and laboratory analysis of collected samples. The Consultant shall guide DGPC in planning these investigations, including recommending borehole locations, depths, drift alignments, and test types. The Consultant will review all field and lab test results, assess the reliability of the data, and validate that the findings meet design input requirements. Any deficiencies or anomalies shall be addressed with corrective recommendations.

### **4.3 Task I.3: Hydrological Study Report**

DGPC shall carry out comprehensive hydrological studies, including data collection and validation, catchment area delineation, flow duration analysis, flood frequency analysis, and reservoir storage estimation. The Consultant is required to validate the data sources, hydrological models used, and the outcomes of design flood and diversion flood calculations. The Consultant shall ensure that the studies consider historical trends, climate change projections, and are consistent with the requirements for dam safety and power generation.

### **4.4 Task I.4: Infrastructure and Construction Facilities**

DGPC shall identify and propose locations and plans for all construction-related infrastructure, including access roads, bridges, contractor camps, stockyards, and waste disposal sites. The Consultant shall review

the siting, design assumptions, and logistical feasibility of these facilities. Special attention should be paid to environmental and social implications, ease of construction access, and long-term sustainability. The Consultant shall validate that proposed facilities are adequate for project execution and recommend improvements where necessary.

#### **4.5 Task II.1: Project Layout and Alternative Studies**

The Consultant shall validate the analyses of layout options for the major components including dam, headrace tunnel, powerhouse, adits, surge shafts, and tailrace conducted by DGPC. The study must include topographical, geological, hydrological, environmental, and social considerations to select the most optimal layout in terms of technical feasibility, cost-effectiveness, constructability, and environmental footprint. If deemed necessary, the Consultant shall propose new layout. The Consultant is expected to carry out site validation for the selected layout and document all assumptions and comparative evaluations.

#### **4.6 Task II.2: Power Potential and Optimization Studies**

The Consultant shall perform detailed studies to estimate power potential based on hydrological inflows, reservoir operation rules, and plant configuration. Optimization shall include sizing of hydraulic structures, turbine selection, tunnel diameter optimization using cost-benefit analysis, and determining firm power and annual energy generation. Sensitivity analysis on hydrology, energy prices, and technical parameters shall be included to test the robustness of design choices. The outcomes will feed into the financial and economic analysis.

#### **4.7 Task II.3: Geological and Geotechnical Appraisal Reports**

Based on the validated investigation data, the Consultant shall prepare comprehensive geological and geotechnical appraisal reports. This includes developing 2D and 3D geological models of critical structures, delineating fault lines, rock mass classifications, ground water conditions, and suggesting suitable support systems. The Consultant shall also document construction material availability and suitability. All findings must conform to international geotechnical standards and be presented with relevant drawings, sections, and notes.

#### **4.8 Task II.4: Geotechnical Baseline Report (GBR)**

Using the appraisal findings, the Consultant shall prepare a Geotechnical Baseline Report (GBR) in line with ASCE 2007 Geotechnical Baseline Report for Construction - Suggested Guidelines and Bhutan Guidelines for Development of Hydropower Projects 2018 (Revised 2024). The GBR must clearly define baseline ground conditions, anticipated challenges, and provide a reference framework for risk allocation in construction contracts. It should serve as a key document for bidders to assess geological risks during project implementation.

#### **4.9 Task II.5: Sedimentation Studies**

The Consultant shall assess sediment load in the river and model reservoir sedimentation using historical data and numerical modelling tools. The study must recommend sediment management strategies including flushing, sluicing, or sediment traps. It should also assess impacts on reservoir life, power production, and infrastructure maintenance. Integration of watershed management options to reduce upstream erosion shall be included.

#### **4.10 Task II.6: Hydraulic and Structural Analysis and Design**

The Consultant shall undertake hydraulic design of all water conveyance structures and structural design of civil components such as dam, intake, tunnels, surge shafts, powerhouse, etc., using standard modelling software. This includes optimization of profiles, structural stability checks, and detailed reinforcement designs. Plant instrumentation requirements for safety monitoring shall be defined as per latest codes and best practices.

#### **4.11 Task II.7: Site-Specific Seismic Hazard and Design Parameter Studies**

The Consultant shall perform site-specific seismic hazard analysis to determine peak ground accelerations and seismic coefficients for structural design. This involves seismic source characterization, ground motion prediction, and probabilistic seismic hazard assessment (PSHA). Design recommendations must comply with Bhutanese and international seismic standards.

#### **4.12 Task II.8: 2D and 3D Dynamic FEM Analysis of Dams**

The Consultant shall carry out 2D and 3D linear and non-linear dynamic FEM analysis of the final configuration of the dam structure, using the agreed software, to confirm the stability (sliding displacement) and cracking of the dam under seismic conditions. The analysis shall be made for the full MCE using acceleration time histories and shall include the rock mass of the foundation. Post-earthquake static stability analysis assuming a fully cracked section shall also be performed by the Consultant.

#### **4.13 Task II.9: Transient Analysis**

Transient flow analysis shall be performed to assess hydraulic responses such as water hammer, pressure surges, and turbine shut-off scenarios. The Consultant shall use industry-approved software and models, validating results against design safety criteria and equipment specifications.

#### **4.14 Task II.10: Reservoir Rim Stability Assessment**

The Consultant shall conduct slope stability assessments along the reservoir rim using geotechnical modelling. Identification of potential failure zones and development of appropriate stabilization measures shall be part of this task. The study must factor in seismic triggers and fluctuating reservoir levels.

#### **4.15 Task II.11: Glacial Lake Outburst Flood (GLOF) Studies**

A glacial lake inventory shall be developed using satellite imagery and digital terrain models. The Consultant shall identify potentially dangerous lakes, simulate GLOF events, and analyze their downstream impact. This includes flood routing, breach analysis, and recommendations for risk mitigation.

#### **4.16 Task II.12: Dam Break Analysis and Hazard Zonation**

The Consultant shall perform dam break analysis using appropriate software and based on DTM with minimum resolution of 2.5 m to be arranged by the Consultant. The dam break analysis shall extend at least up to the dam of the existing Kurichhu Hydropower Plant (KHP) or to the extent of diminished peak flood level and also consider some of the planned projects in the river valley. The dam break analysis shall conform to the relevant international standard such as FEMA, USACE, USBR and Bhutan Guidelines for Development of Hydropower Projects 2018 (Revised 2024). To a minimum, the analysis should incorporate at least the scenarios of current condition without dam (virgin condition), opening of all gates and dam breach condition and any additional scenarios as necessary. All the necessary data required for the analysis shall be arranged by the Consultant.

Based on the above studies, the Emergency Preparedness Plan (EPP) shall be prepared by the Consultant including hazard zonation and inundation maps as per international best practice such as World Bank's standards.

#### **4.17 Task II.13 & II.14: Design of Electro-Mechanical and Hydro-Mechanical Equipment**

The Consultant shall undertake a principle design of all turbine-generator units, transformers, control systems, gates, valves, and penstocks. This includes performance specifications, layout drawings, and installation schemes. Designs must ensure compatibility with civil structures and ease of maintenance.

#### **4.18 Task II.15: Construction Methodology, Equipment Planning & Project Scheduling**

The Consultant shall prepare a construction schedule considering construction rates for the various project items based on rates for similar projects and construction methodologies. The construction schedule shall indicate the critical path for construction and take into account the meteorological and hydrological conditions. The Consultant shall also prepare an implementation schedule showing all major stages of implementation of the project, including required studies and design, tendering, financing, preparatory works and construction and commissioning. The details of the year-wise construction program for each of the major components of the project, including the preparatory works shall be prepared by using Primavera or Microsoft Project. PERT chart shall be prepared for each major component showing the duration and sequence of construction activities. Critical deadlines and activities shall be identified as well as potential interfaces with other activities showing the critical path network. All schedules must be sufficiently detailed to show an accurate estimate of the project cost.

The Consultant shall also identify and adequately provision for induction and engagement of locals for providing goods and services including outsourcing construction of project colonies in partnership with locals. The Consultant shall also prepare a Construction Supervision and Quality Assurance Plan (CSQAP). The plan shall set out details of the organization, staffing levels, procedures, equipment, and qualifications for supervision of the construction of the project. The plan shall also take into account the usual long construction period, covering the supervision requirements as the dam grows in height—with any accompanying changes in construction materials or the characteristics of the impounded material— over a period of years.

In addition, the Consultant shall prepare a preliminary Operation and Maintenance Plan (O&MP). The plan shall outline the organizational structure, staffing, technical expertise, equipment and facilities needed to operate and maintain the project including long-term maintenance and safety inspections.

#### **4.19 Task II.16: Engineering Drawings and Design Notes**

All civil, hydro-mechanical, and electro-mechanical drawings prepared by the Consultant shall conform to the prevailing and relevant international codes, standards, and best practices. The Consultant shall explicitly reference applicable standards (e.g., IEC, ASTM, IS codes) in the design documentation for each component.

All engineering drawings shall be developed to tender-level detail and shall clearly reflect construction feasibility, accuracy in dimensions, material specifications, and interface conditions. Each set of drawings must be accompanied by comprehensive design notes and memos that explain the design criteria, assumptions, analytical methods, safety factors, and key decisions taken.

Drawings shall be formatted for print and digital use and must include version control, legends, north direction, scales, and drawing indices. The Consultant is responsible for quality control and review of all drawings and shall submit drafts for review and final versions in both editable (e.g., AutoCAD, Revit) and PDF formats.

#### **4.20 Task II.17: Power Evacuation Study**

This includes route selection, voltage level analysis, and substation design in consultation with Bhutan Power Corporation Limited (transmission and distribution utility in Bhutan) and aligned with the National Transmission Grid Master Plan. The Consultant shall also estimate wheeling charges and transmission losses for financial modelling.

#### **4.21 Task II.18: Power Market Study**

The Consultant shall undertake a comprehensive power market study to assess the markets and off-takers for the energy generated by the Khomachhu Hydropower Project. This includes evaluating domestic, regional, and export opportunities to determine the most viable and strategic off-take options.

The study shall:

- Identify and characterize potential power off-takers including utilities, distribution companies, and regional power exchanges.
- Analyze the current and projected electricity demand and supply dynamics in Bhutan and in relevant export markets (e.g., India, Bangladesh).
- Examine market trends, policy and regulatory frameworks, and regional cooperation agreements affecting power trade.
- Assess the role of the Khomachhu project in the power system—whether as a base load, intermediate, or peaking plant—based on seasonal and hourly load profiles.
- Determine the operational strategy that would optimize energy dispatch and revenue generation.
- Evaluate potential tariffs for energy sale and recommend pricing strategies based on comparative projects and prevailing market norms.

The study shall inform optimization of plant capacity and configuration (Task II.2) and feed directly into the financial and economic analysis (Task II.20). The Consultant is expected to stay abreast of market changes and policy developments and incorporate the most recent and realistic scenarios into their recommendations.

#### **4.22 Task II.19: Project Cost Estimate**

The Consultant shall prepare a detailed and comprehensive project cost estimate based on the final design, engineering drawings, technical specifications, and adopted construction methodology. This cost estimate shall reflect prevailing market conditions and be suitable for use in international competitive bidding.

The Consultant shall consider key variables such as the project's geographical location, accessibility, source and availability of construction materials, applicable taxes and duties, and logistical complexities. The bill of quantities (BoQ) shall be developed to a level suitable for tendering and must provide clear itemized breakdowns.

The estimate shall encompass the following cost components:

- Engineering services during project implementation, including final design, preparation of tender documents, construction supervision, and additional field investigations.
- Administrative and pre-operational costs incurred by RGoB/DGPC, including legal fees, land acquisition, and local institutional support.
- Infrastructure and preparatory works, including temporary access roads, bridges, contractor camps, stockyards, and site development.
- Civil works, with unit rates derived specifically for this project based on site-specific construction methodologies, equipment productivity, labor, and material costs.
- Hydromechanical, electromechanical, and auxiliary equipment, priced using budgetary quotations or historical benchmarks from recent, comparable hydropower projects.
- Power evacuation infrastructure, including substations, transmission lines, and interconnection systems up to the point of energy transfer to the identified off-taker(s).
- Environmental and social mitigation measures, covering resettlement, biodiversity conservation, community health and safety, and monitoring plans.
- Physical contingencies to address quantity uncertainties arising from geological or hydrological variabilities.
- Financial costs, including interest during construction, financing fees, price contingencies, escalation, and taxation.

Additionally, the Consultant shall:

- Develop a disbursement schedule aligned with the proposed construction program and expected cash flows.
- Estimate annual operation and maintenance (O&M) costs, including staffing, maintenance cycles, spare parts, insurance, and inspections.

The cost estimate shall be presented in a structured format, incorporating summary tables, detailed BoQs, and explanatory notes for key assumptions and rates applied. The Consultant must ensure traceability, transparency, and consistency throughout the cost estimation process.

#### **4.23 Task II.20: Financial and Economic Analysis**

The Consultant shall perform comprehensive economic and financial analyses of the Khomachhu Hydropower Project, in accordance with the Bhutan Sustainable Hydropower Development Policy, the Bhutanese Guidelines for the Development of Hydropower Projects (June 2018; Revised 2024), and the latest CERC (Central Electricity Regulatory Commission, India) guidelines.

Prior to the commencement of analysis, the Consultant shall engage with DGPC to agree upon the methodologies, underlying assumptions, and analytical frameworks to be applied. Given the regional relevance of the project, the analyses must be structured to incorporate perspectives from all key stakeholders, including DGPC, RGoB, and potential regional off-takers.

The scope of the economic and financial analyses shall include:

- Comparison of the “with-project” and “without-project” scenarios to determine net project benefits.
- Establishment of a base case using estimated implementation costs and projected energy output.
- Revenue projections under differentiated tariff scenarios (domestic and export).
- Calculation of key indicators such as Internal Rate of Return (IRR), Net Present Value (NPV), and Benefit-Cost Ratio (BCR).
- Analysis of the project’s financial viability and funding requirements.

The Consultant shall also conduct rigorous sensitivity analyses on the following variables, at a minimum:

- Increase in construction costs.
- Extension of construction period.
- Reduction in energy generation due to lower-than-expected inflows, accounting for climate variability and sequences of dry years.
- Variations in electricity tariffs.
- Changes in financing structures, interest rates, and loan terms.
- Disruption or failure of power offtake arrangements.

The outcomes of these analyses will inform final investment decisions and provide a risk-informed basis for structuring financial agreements and stakeholder engagement strategies. All assumptions and sources must be clearly documented and justified.

#### **4.24 Task II.21: Contract Strategy**

The Consultant shall develop a comprehensive contract strategy for the implementation of the Khomachhu Hydropower Project in close coordination with DGPC. The strategy shall be aligned with international best practices in procurement and contract management, while also accounting for Bhutanese legal, institutional, and operational contexts.

The contract strategy shall include, but not be limited to:

- Recommended form(s) of contract to be used (e.g., EPC, Design-Build, Item Rate, Turnkey, or Hybrid models), providing justification for each.
- Division of project works into logical, manageable contract packages based on technical interfaces, construction sequencing, and market capabilities.
- Identification of critical contract interfaces and dependencies between civil, electro-mechanical, hydro-mechanical, transmission, and auxiliary works.
- Preliminary procurement timeline and contract award sequence aligned with the project schedule.
- Risk-sharing mechanisms and allocation of responsibilities across parties.
- Preliminary recommendations on prequalification criteria, bid evaluation methodology, and contract

performance management.

The Consultant shall also highlight the implications of contract packaging on cost, schedule, construction logistics, and quality control. Lessons learned from similar regional or international hydropower projects should be reflected to ensure the proposed strategy is pragmatic and risk-responsive.

This strategy will serve as a foundation for DGPC to initiate procurement planning, draft tender documentation, and prepare internal approvals required prior to launching the procurement process.

#### **4.25 Task II.22: Risk Analysis and Integrated Geo-Hazard Assessment**

The Consultant shall develop a comprehensive risk analysis framework for the Khomachhu Hydropower Project, in alignment with the Bhutan Guidelines for the Development of Hydropower Projects 2018 (Revised 2024). The risk assessment shall identify and evaluate all project-related risks including but not limited to commercial, technical, environmental, social, and geo-hazard risks.

Key responsibilities include:

- Preparation of a Risk Register, cataloguing identified risks, categorizing them (e.g., financial, contractual, geotechnical, environmental), and assessing their likelihood and potential impact.
- Formulation of mitigation measures, including prevention, minimization, response actions, and contingency plans.
- Quantification of risks where applicable and evaluation of their effect on project schedule, cost, and performance.
- Incorporation of geo-hazard risks, including landslides, slope failures, fault zones, seismic activity, glacial lake outburst floods (GLOFs), and reservoir rim instability.
- Alignment of the risk analysis with geological and geotechnical models prepared under Task II.3 and site-specific seismic and hydrological studies.
- Integration of findings from the Environmental and Social Impact Assessment (ESIA) to address environmental and social (E&S) risks.
- Documentation of an E&S Risk and Impact Assessment chapter, including evaluation of alternatives considered through the ESIA process, in the final Feasibility Study Report.

The Consultant shall ensure the risk management framework is robust, forward-looking, and supports informed decision-making by DGPC, lenders, and government stakeholders.

## **5 ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) CONSULTANCY**

The Consultant shall be responsible for preparing a comprehensive Environmental and Social Impact Assessment (ESIA) report that ensures the project's compliance with all applicable national regulations and international standards. The ESIA must demonstrate conformity with the World Bank's Environmental and Social Framework (ESF), the Asian Development Bank's Safeguard Policy Statement (SPS), and the Bhutan Guidelines for Development of Hydropower Projects 2018 (Revised 2024).

### **Scope of Work:**

- i) Baseline Studies:** The Consultant shall conduct field investigations and secondary data review to establish detailed baseline environmental and socio-economic conditions. This includes land use, biodiversity, water quality, air and noise levels, cultural heritage, livelihoods, and demographic profiles of affected communities.
- ii) Impact Assessment:** The ESIA shall comprehensively assess both direct and indirect impacts of all project phases (pre-construction, construction, operation, and decommissioning). The Consultant must identify significant risks to biodiversity, water resources, ecosystem services, physical and economic displacement, and community health and safety.
- iii) Mitigation and Enhancement Measures:** For each identified adverse impact, the Consultant shall recommend specific mitigation, minimization, or offset measures. Positive impacts should also be

enhanced wherever possible. The measures must be detailed in a tabulated format along with implementation responsibilities, monitoring indicators, and timelines.

- iv) **Environmental and Social Management Plans (ESMP):** The Consultant shall develop a comprehensive ESMP that includes site-specific management sub-plans (e.g., Biodiversity Action Plan, Livelihood Restoration Plan, Community Health and Safety Plan, Waste Management Plan, etc.). These should be aligned with institutional capacity and reflect realistic timelines and budget estimates.
- v) **Resettlement Action Plan (RAP):** The consultant shall prepare Resettlement Action Plan in line with international good practices and guidelines which sets out strategies to mitigate adverse effects induced by the project. The consultant shall examine impacts of proposed project on private land and property and shall establish the parameters for the entitlements package for affected people (APs), the institutional framework, mechanisms for consultation and grievance resolution, the time frame, and cost estimates.
- vi) **Stakeholder Engagement and Consultation:** The Consultant shall design and implement a stakeholder engagement strategy in line with international good practices. This includes public consultations, community disclosure meetings, and grievance redress mechanisms. Records of meetings, feedback, and responses must be documented.
- vii) **Cumulative Impact Assessment (CIA):** If applicable, the Consultant shall analyze cumulative environmental and social impacts from existing or planned hydropower and infrastructure projects in the same basin or region.
- viii) **Permitting Support:** The Consultant shall assist DGPC in securing all required permits, including Environmental Clearance from the Department of Environment and Climate Change, Forestry Clearance, and any other statutory approvals.
- ix) **Alignment with International Standards:** The Consultant must ensure the ESIA is fully aligned with the safeguard policies of multilateral development banks such as the World Bank and ADB. References to Appendix I and II must be integrated to ensure that the report meets the legal and institutional requirements of Bhutan.
- x) **Disclosure and Submission:** The final ESIA report, including all annexes and non-technical summaries, shall be prepared in a format suitable for public disclosure and submission to regulatory agencies.

The ESIA must reflect a thorough understanding of the project's potential environmental and social footprint and propose clear, actionable strategies to manage risks and enhance benefits throughout the project lifecycle. The detailed scope of works and the report formatting requirements to be followed by the Consultant are provided under **Annexure - III**.

## 6 MEETINGS AND SITE VISITS

An interdisciplinary team of experts from both the Consultant and DGPC shall jointly undertake site visits and technical meetings throughout the course of the Detailed Project Report (DPR) preparation. These engagements are essential for validating project assumptions, finalizing layout alternatives, refining design parameters, and confirming key project features in the field context.

It is anticipated that a minimum of four (4) site visits will be organized during the study period. The initial site visit shall be scheduled promptly following the signing of the Contract Agreement to facilitate kick-off discussions and field orientation. Subsequent visits will be organized at key project milestones or as required, with dates coordinated by DGPC in consultation with the Consultant. These visits shall be planned to ensure meaningful, interdisciplinary engagement and decision-making at critical phases of the study.

## 7 TRAINING AND CAPACITY BUILDING

As emphasized in earlier sections, a key objective of the Consultant’s assignment is to enhance DGPC’s internal capabilities through structured training and knowledge transfer. To fulfil this goal, the Consultant shall provide targeted training and hands-on sessions to DGPC personnel using the Khomachhu project as a live case study.

The training program shall cover, but not be limited to, the details provided in the table below:

SN	Training	Duration in days	Venue
1	Transient analysis	3	DGPC office in Bhutan
2	Dynamic analysis of dam	3	
3	Dam Break and GLOF assessment	5	
4	E&M/Powerhouse design and sizing	3	
4	E-Flow Assessment	3	
5	Critical Habitat Assessment (Biodiversity Assessment)	3	
6	Social- Data Collection Techniques and Analysis	3	

The Consultant shall develop and deliver training materials, presentations, and software tutorials as applicable. The format may include workshops, seminars, field demonstrations, and one-on-one mentoring sessions. DGPC and the Consultant will jointly finalize the training calendar, scope, and depth of each topic to align with the project milestones and staff availability.

All training outputs, including manuals, presentation files, and recorded sessions, shall be documented and submitted as part of the final deliverables.

## 8 DATA AND FACILITIES TO BE PROVIDED BY DGPC

DGPC will provide the following data and facilities free of charge to the Consultant for the duration of the assignment:

- A digital copy (PDF) of the Pre-Feasibility Report (PFR) 2011, the Bhutan Guidelines for Development of Hydropower Projects 2018 (Revised 2024), and all other relevant information and data in DGPC’s possession that are necessary for carrying out the assignment.
- All required permissions and authorizations for the Consultant’s activities under the contract. This includes facilitation and support for obtaining visas, work permits, and any other legal or regulatory approvals needed by the Consultant's personnel.
- Office facilities during Consultant visits to DGPC, including workspace, internet access, and access to printing and photocopying equipment.
- For the Environmental and Social Impact Assessment (ESIA), additional data and support requirements are detailed under Appendix-I.

DGPC shall also provide assistance in coordinating with government agencies, stakeholders, and communities as needed for smooth execution of the Consultant’s tasks.

## 9 STAFFING

It is envisaged that the Consultant’s team will consist of a multidisciplinary group of highly qualified experts, each possessing substantial experience in their respective domains and fluent in both spoken and written English. The staffing structure should ensure coverage across all technical, environmental, and managerial aspects of the assignment.

Each expert shall demonstrate a strong track record of previous work on similar hydropower projects, and the Consultant shall assign staff with qualifications that align with the scope and complexity of the Khomachhu Hydropower Project.

The Consultant's core team is expected to include, but not be limited to, the following professionals:

Key Experts	Required Experience	Main Tasks
Hydropower Expert/Project Manager	University degree in Civil Engineering with minimum 15 years of experience of design of hydropower projects of which minimum 5 years as project manager for international hydropower projects (outside the country of nationality of the key expert) with minimum of one no. of completed similar assignments (nature and size).	<ul style="list-style-type: none"> <li>● Overall responsible for the assignment, including on-the-job training and capacity building for the DGPC team, and reporting including Design Memorandum and Monthly Progress Reports</li> <li>● Review of all works performed by DGPC.</li> <li>● Carry out the design &amp; optimization studies of the project.</li> <li>● Prepare construction schedule.</li> <li>● Establish a risk register for the project in coordination with other experts.</li> <li>● Provide experts guidance during the investigation stage</li> <li>● Review and coordinate all the activities under Task II.</li> <li>● Develop contract strategy.</li> </ul>
Hydrology & Sediment Expert	University Degree in Hydrology & Sediment or related field. At least 10 years of experience in hydrology & sediment management studies. International experiences are required (outside the country of nationality of the key expert) with minimum of one no. of completed similar assignments (nature and size).	<ul style="list-style-type: none"> <li>● Review the data collected by the DGPC.</li> <li>● Review hydrological analysis performed by DGPC.</li> <li>● Carry out sedimentation studies using appropriate numerical models</li> <li>● Carry out the dam break and GLOF studies and preparation of EPP in coordination with other experts.</li> </ul>
Seismic Expert	University Degree in Geology, Engineering Geology or related field. At least 10 years of experience in the assessment of seismic hazard risks, including for the Himalayas.	<ul style="list-style-type: none"> <li>● Seismic hazard assessment</li> <li>● Establish a risk register for the project identifying all risks, including geo-hazard risk, their potential impact, probability of occurrence, and response and strategy for contingency plans in coordination with other experts.</li> </ul>
Dam Expert	University degree in Civil Engineering with minimum 10 years of experience in design of dams including dynamic FEM analysis. International experiences are required (outside the country of nationality of the key expert) with minimum of one no. of completed similar assignments (nature and size).	<ul style="list-style-type: none"> <li>● Carry out final dam type selection, layout planning including appurtenant structures.</li> <li>● Pseudo-static stability analysis.</li> <li>● Carry out 2D and 3D linear and non-linear dynamic FEM analysis of the final configuration of the dam structure, using the agreed software.</li> </ul>

Key Experts	Required Experience	Main Tasks
Hydraulic Expert	University degree in Civil Engineering with minimum 10 years of experience in hydraulic design of hydropower projects including modelling for surge and water hammer analysis. International experiences are required (outside the country of nationality of the key expert) with minimum of one no. of completed similar assignments (nature and size).	<ul style="list-style-type: none"> <li>● Carry out all hydraulic analysis and design including plant optimization of all civil components of the project using agreed numerical modeling in conformance with standard norms, codes and practice.</li> </ul>
Structural Engineer	University degree in Civil Engineering with minimum 10 years of experience in design of dams including structural analysis. International experiences are required (outside the country of nationality of the key expert) with minimum of one no. of completed similar assignments (nature and size).	<ul style="list-style-type: none"> <li>● Carry out the structural analysis and design including plant optimization of all civil components of the project using agreed numerical modeling in conformance with standard norms, codes and practice.</li> </ul>
Engineering Geologist	University degree in Geological Engineering with minimum 15 years of experience in interpretation of geological and geotechnical information, engineering geological assessments, preparation of GDR, GIR and GBR for hydropower projects, and and underground works for hydropower projects. International experiences are required, including experience in Himalayan terrains.	<ul style="list-style-type: none"> <li>● Prepare the geological and geotechnical appraisal reports of the projects including development of geological and geotechnical models as well as all the geological sections including construction material survey, in accordance with relevant standards and codes.</li> <li>● Review and validate the geotechnical investigation work carried out by DGPC.</li> <li>● Prepare a geological model of the dam complex, HRT and powerhouse complex to determine the robust support system required for the long- term stability.</li> <li>● Prepare a GBR according to “ASCE 2007, Geotechnical Baseline Report for Construction- Suggested Guidelines” and in line with the Bhutan Guidelines for Development of Hydropower Projects 2018 (Revised 2024).</li> <li>● Conduct geo-hazard assessment and reservoir rim stability assessment.</li> </ul>

Key Experts	Required Experience	Main Tasks
Hydro-mechanical Expert	University degree in Mechanical Engineering with minimum 10 years of experience in studies of electromechanical and hydromechanical equipment for hydropower projects. International experiences are required (outside the country of nationality of the key expert) with minimum of one no. of completed similar assignments (nature and size).	<ul style="list-style-type: none"> <li>● Shall plan and design, including preparation of drawings of the hydro-mechanical equipment of the project.</li> </ul>
Electro-mechanical Expert	University degree in Electrical or Mechanical Engineering with minimum 10 years of experience in studies of electromechanical and hydromechanical equipment for hydropower projects. International experiences are required (outside the country of nationality of the key expert) with minimum of one no. of completed similar assignments (nature and size).	<ul style="list-style-type: none"> <li>● Shall plan and design, including preparation of drawings of the electro-mechanical equipment of the project.</li> </ul>
Construction Method, Equipment Planning and Scheduling Expert.	University degree in Civil Engineering or related field with minimum 10 years of experience in Construction Method, Equipment Planning and Scheduling of international hydropower projects (outside the country of nationality of the key expert) with minimum of one no. of completed similar assignments (nature and size).	<ul style="list-style-type: none"> <li>● Provide a construction schedule considering construction rates for the various project items based on rates for similar projects and construction methodologies.</li> <li>● Prepare an implementation schedule showing all major stages of the implementation of the Project, including required studies and design, tendering, financing, preparatory works and construction and commissioning.</li> <li>● Identify and adequately provision for induction and engagement of locals for providing goods and services including outsourcing construction of project colonies in partnership with locals</li> <li>● Prepare a Construction Supervision and Quality Assurance Plan (CSQAP).</li> </ul>
Cost Estimator	University degree in Civil Engineering or related field with minimum 10 years of experience in cost estimation of international hydropower projects (outside the country of nationality of the key expert) with minimum of one no. of completed similar assignments (nature and size).	<ul style="list-style-type: none"> <li>● Prepare unit rates for civil, H&amp;M and E&amp;M, bill of quantities, and total cost estimate of the project.</li> </ul>

Key Experts	Required Experience	Main Tasks
Power Market	<p>University degree in Electrical Engineering with minimum 10 years of experience. International experiences are required (outside the country of nationality of the key expert) with minimum of one no. of completed similar assignments (nature and size) in the region.</p> <p>Good understanding of the electricity market and policies in the region is necessary that have a bearing on regional hydropower development and should be in a position to augment any updates to the data that may become available and form realistic market development scenarios.</p>	<ul style="list-style-type: none"> <li>● Shall carry out the power market study to assess the power market(s) of the off-taker(s) of the generated energy from the project.</li> <li>● Shall determine the benefits from energy generation to be used in the optimization studies (Power potential and optimization studies) and the financial evaluation including potential tariffs for sale of energy (Financial and economic Analysis).</li> </ul>
Economic and Financial Analyst	<p>University Degree in Finance, Business Administration or Economics. At least 10 years of international experience (outside the country of nationality of the key expert) in financial analysis of power generation investment projects, including hydropower projects with minimum of one no. of completed similar assignments (nature and size).</p>	<ul style="list-style-type: none"> <li>● Carry out economic and financial analyses of the project in accordance with the provisions of Bhutan Sustainable Hydropower Development Policy, Guidelines for the Development of Hydropower Projects, Bhutan 2018 (Revised 2024) and the latest CERC guidelines of India.</li> </ul>
Environmental Specialist (Team - Leader - International)	<p>University Degree in environmental sciences, environmental or civil engineering, or a related field and at least 15 (fifteen) years' experiences including extensive international experience (outside the country of nationality of the expert), in leading and/or conducting an ESIA with minimum of one no. of completed similar assignments (nature and size).</p>	<ul style="list-style-type: none"> <li>● Shall be in charge of coordinating the ESIA, EMP and RP and other plans integrating the inputs of each specialist, putting together the ESIA, and managing the consultation processes</li> </ul>
Social Development Specialist (Co-Team Leader - International)	<p>A university degree in social sciences such as anthropology, sociology, economics, development or other related fields and a minimum of 15 (fifteen) years of relevant professional experience is required with minimum of one no. of completed similar assignments (nature and size).</p> <p>The social specialist should have broad operational experiences,</p>	<ul style="list-style-type: none"> <li>● shall be in charge of the social aspects of this consultancy, including consultations for and social impact. He/she shall conduct additional social surveys to gather data on local communities and assess potential impacts of the projects. Shall monitor and evaluate the social outcomes of projects to ensure they meet the expected standards and objectives. Shall prepare detailed reports on social</li> </ul>

Key Experts	Required Experience	Main Tasks
	<p>including extensive international experience (outside the country of nationality of the expert), in social development aspects such as gender and GBV/SEA/SH, solid knowledge and application experiences applying safeguard policies, particularly involuntary resettlement and indigenous people. This specialist is expected to have experiences in leading teams.</p> <p>He/She should also have an understanding of and experience in applying international standards on social development aspects (for instance World Bank and/or IFC and those of ADB's).</p>	<p>aspects</p>
<p>Environmental Specialist (National expert and Country focal point)</p>	<p>University degree in environmental sciences, environmental or civil engineering, or a related field and a minimum of 10 (ten) years of experience in conducting an ESIA with minimum of one no. of completed similar assignments (nature and size).</p>	<ul style="list-style-type: none"> <li>● Shall work with the environmental specialist (Team leader, international) to design and conduct fieldwork for ESIA and other plans, putting together the ESIA, and conduct the consultation processes. As the national focal point, he/she is also expected to work closely with the Environmental Specialist (Team Leader) and Social Development Specialist (Co-Team Leader) to coordinate environmental and social aspects of the project.</li> </ul>
<p>Environmental Flow Specialist (International)</p>	<p>University graduate degree in civil engineering, hydrology/ecohydrology, environmental sciences or a related field and minimum of 10 (ten) years of experience in aquatic ecology, water quality and environmental flow assessments in hydropower projects with minimum of one no. of completed similar assignments (nature and size).</p> <p>He/She should also have an understanding of and experience in applying international standards on e-flow assessment (for instance World Bank and/or IFC and those of ADB's).</p>	<ul style="list-style-type: none"> <li>● Shall have a deep understanding in environmental decision processes, and utilizing multi-criteria approaches to holistic (environmental and social) decision making in hydropower projects, including ecohydraulic modelling and impact assessment of flow regimes on aquatic ecosystems. Shall also have deep understanding of and experience in applying international standards on environmental and social standards. He should be able to determine the E-flow based on the Guideline to Determine Minimum Environmental Flow - Regulations for Dewatered Reaches of Hydropower Projects in Bhutan, 2019 using appropriate tool, software and equipment.</li> </ul>
<p>Aquatic and Riparian</p>	<p>University Degree in aquatic biology, freshwater ecology,</p>	<ul style="list-style-type: none"> <li>● Shall have deep understanding of macroinvertebrates and experience</li> </ul>

Key Experts	Required Experience	Main Tasks
Biodiversity Specialist (International)	<p>environmental studies or a related field and a minimum of 10 (ten) years' experience in conducting aquatic and riparian ecosystems assessments in hydropower projects with minimum of one no. of completed similar assignments (nature and size).</p> <p>He/She should also have an understanding of and experience in applying international standards on aquatic and riparian ecosystem assessments (for instance World Bank and/or IFC and those of ADB's).</p>	<p>in applying international standards.</p>
Terrestrial Biodiversity Specialist (International)	<p>University degree in terrestrial biology, zoology, ecology, wildlife management or a related field and a minimum of 10 (ten) years' experience in conducting terrestrial biodiversity impact assessments including in hydropower projects with minimum of one no. of completed similar assignments (nature and size).</p> <p>He /She should also have an understanding of and experience in applying international standards on natural and critical habitat assessments (for instance World Bank ESS6 and/or IFC PS6 and those of ADB's).</p>	<ul style="list-style-type: none"> <li>● Provide all biological inputs to the ESIA to ensure that the report meets all TOR requirements in terms of content, time and quality as well as documenting project conformance with World Bank standards and ADB and government requirements. To include biodiversity baseline studies, alternatives analysis, and impact assessment, and the development of appropriate biodiversity management plans, covering both upstream and downstream areas, and a Biodiversity Action Plan if needed. Pay special attention to terrestrial and aquatic biodiversity, and the Project's conformance with natural and critical habitat requirements.</li> </ul>
Climate Change Expert (International)	<p>University Degree in Engineering, Environmental Science or related discipline with technical skills such as Climate modeling and simulation, Statistical analysis and data interpretation, Programming languages relevant to climate science and a minimum of 10 (ten) years' experience in conducting climate change related studies minimum of one no. of completed similar assignments (nature and size).</p> <p>He/She should also have an understanding of and experience in applying international standards on GHG emission assessments (for instance World Bank and/or IFC and those of ADB's).</p>	<ul style="list-style-type: none"> <li>● The expert will do the following tasks, but not limited to: <ul style="list-style-type: none"> <li>○ Calculate the GHG emissions and savings from the project in accordance with World Bank and ADB guidelines (including reservoir emissions) and calculate the climate mitigation financing</li> <li>○ Determine the climate change trends that will affect the study area over the project's life cycle and need to be taken on board in the project design to ensure climate resilience e.g., rainfall, temperature etc.</li> <li>○ In conjunction with the technical team assess climate change risks to the project/project vulnerability to climate change (e.g, flash floods and glacial lake outburst floods) and how the</li> </ul> </li> </ul>

Key Experts	Required Experience	Main Tasks
		<p>project design can be adapted to ensure climate resilience.</p> <ul style="list-style-type: none"> <li>○ Recommend and design measures to adapt to climate change (e.g., riverbank protection, spillway design and early warning systems) and improve safety measures (e.g., dam safety) and calculate the climate adaptation finance contribution</li> </ul>
<p>Biodiversity Expert (National)</p>	<p>University degree in terrestrial biology, zoology, ecology, wildlife management or a related field and a minimum of 10 (ten) years' experience in conducting terrestrial biodiversity impact assessments including in hydropower projects with minimum of one no. of completed similar assignments (nature and size). He /She should also have an understanding of and experience in applying international standards on natural and critical habitat assessments (for instance World Bank ESS6 and/or IFC PS6 and those of ADB's).</p>	<ul style="list-style-type: none"> <li>● Provide all biological inputs to the ESIA to ensure that the report meets all TOR requirements in terms of content, time and quality as well as documenting project conformance with World Bank and ADB guidelines and government requirements. To include biodiversity baseline studies, alternatives analysis, and impact assessment, and the development of appropriate biodiversity management plans, covering both upstream and downstream areas, and a Biodiversity Action Plan if needed. Pay special attention to terrestrial and aquatic biodiversity, and the Project's conformance with natural and critical habitat requirements.</li> </ul>
<p>Social Expert (National)</p>	<p>University degree in social science or similar and experience of large hydropower. They should possess a minimum of 10 (ten) years' experience with minimum of one no. of completed similar assignments (nature and size) in relevant field or the design, implementation and monitoring of social development schemes and safeguards interventions for internationally financed projects, including those related to Indigenous Peoples, resettlement, gender equality and social inclusion, and safeguards administration. He /She should be experienced with, and fit to undertake, participatory rapid/rural appraisal, transect walk surveys, and other field-based tools for social data collection and impact analysis. Preference will be given to those with knowledge of statistical</p>	<ul style="list-style-type: none"> <li>● Shall undertake socioeconomic/use of ecosystem services/physical cultural resources surveys and baseline studies, alternatives analysis, and impact assessment. Shall be responsible for developing a social baseline study plan and protocol, overseeing proper execution of the baseline study, evaluating the data, preparing the baseline and impact assessment sections of the ESIA, identifying appropriate mitigation measures, and developing appropriate management plans, in consultation with the international social expert. Specifically responsible for assessment of the project impacts on affected land and non-land assets and livelihoods, local communities, labor, and women, minority, vulnerable, disadvantaged, and indigenous people. Shall identify permanent and temporary socioeconomic impacts arising from land acquisition, changes in land use, and involuntary restrictions on land</li> </ul>

Key Experts	Required Experience	Main Tasks
	sampling. They will generally support the international social expert with all their tasks especially field-based activities deputizing for them when needed.	use or on access to legally designated parks and protected areas, due to changes of river flow and project facilities. Include measures to minimize and mitigate the involuntary resettlement (physical and/or economic displacement) and other impacts on affected land users within the river catchments including upstream and downstream areas. Develop appropriate social management plans to mitigate identified project impacts. Guide and oversee the development of a resettlement plan, if required.

The Consultant shall ensure availability of sufficient supporting staff, including CAD technicians, surveyors, administrative personnel, and translators (if needed), to enable effective and timely delivery of outputs.

## 10 TIME SCHEDULE FOR DPR & ESIA

The duration for the preparation of the Detailed Project Report (DPR), including the Environmental and Social Impact Assessment (ESIA), shall be twelve (12) months from the date of signing the Contract Agreement.

The table below outlines the timeline for major activities to be undertaken during the study period:

**Table 3: Schedule of Major Activities**

SN	Activities	Timeline (Months)
1	Signing of Contract Agreement.	T
2	Project Layout & Alternative Study and ESIA inception report.	T+2
3	Preliminary engineering and design & outcome of at least two-season field survey for ESIA.	T+5
4	Geological & Geotechnical Investigation Appraisal/ Geotechnical Baseline Report.	T+7
5	Construction methodology, equipment planning and project schedule.	T+8
6	Detailed engineering and design & outcomes of all four-season field survey for ESIA.	T+10
7	Submission of draft DPR including ESIA report	T+11
8	Submission of final DPR including ESIA report	T+12

## 11 REPORTING AND DELIVERABLES

An interdisciplinary team of experts from the Consultant and DGPC shall visit the project site periodically during the course of DPR preparation. These visits will serve to finalize project layout options, verify field data, and confirm key design parameters and project features.

The Consultant shall present the ESIA Inception Report and project layout alternatives to DGPC and relevant Royal Government of Bhutan (RGoB) agencies for review and feedback.

The Consultant shall submit the following deliverables in both hard and soft copies:

- Inception Report – 2 copies
- Quarterly Progress Reports – 2 copies each
- Interim or Mid-Term Progress Report – 2 copies
- Draft FSR including ESIA Report – 2 copies

All soft copies must include both PDF and fully editable formats (e.g., Word, Excel, CAD), along with associated design memos and calculations.

The Consultant shall formally present the Draft Final DPR including ESIA to DGPC and relevant RGoB agencies. Feedback, comments, and recommendations from DGPC shall be provided within two (2) weeks of the presentation. The Consultant is responsible for incorporating this feedback into the Final FSR.

Upon final approval of the DPR, the Consultant shall submit:

- 2 hard copies of the Final DPR
- Editable digital versions of the Final DPR and all associated documents

The following table shows the deliverables of the Consultant.

SN	Description	Duration	Remarks
1	Milestone 1: Inception Report	T + 2 months	Among others, review and comment on the scope of field survey and investigation works, project layout and alternative study, review of Hydrological studies, including findings from the site visits and review of past studies and ESIA.
2	Milestone 2	T +5 months	Among others, finalize the project alternative studies, Power Potential studies and optimization, and submit the preliminary design and engineering of the project. Submit report documenting the outcomes of at least two-seasons field survey for ESIA.
3	Milestone 3	T + 10 months	Among others, submit the geological & geotechnical investigation appraisal/ geotechnical baseline report, construction methodology, equipment planning and project schedule and detailed engineering and design report. Submit report documenting the outcomes of all four-seasons field survey for ESIA.
4	Milestone 4	T+ 11months	Submission of draft DPR including ESIA report.
5	Milestone 5	T+ 12 months	Submission of final DPR including ESIA report.

For key deliverable of ESIA, refer Appendix-I.

## 12 RESPONSIBILITIES OF CONSULTANT

The Consultant shall be fully responsible for the effective execution of the assignment, ensuring all tasks are completed in accordance with the scope, timeline, and quality standards outlined in the agreement. In addition to technical and reporting obligations, the Consultant shall be responsible for arranging and bearing the costs of all logistical and operational needs of its staff during the assignment. This includes:

- Air transportation to and from Bhutan
- Local transportation within Bhutan
- Accommodation and per diem allowances
- Travel insurance and medical coverage
- Visa fees, work permits, and other legal clearances for expatriate staff

- Communication tools, laptops, and necessary software licenses
- Field equipment required for surveys, inspections, or investigations not otherwise provided by DGPC

All associated costs shall be included in the Consultant's financial proposal. The Consultant shall ensure that deployed personnel are adequately supported and equipped to fulfil their roles efficiently throughout the project duration.

## **Annexure III - Detailed Scope of ESIA and Deliverables**

### **1 Applicable Standards**

The ESIA and associated management plans shall be prepared in accordance with the international best practices like World Bank standards or ADB Safeguard Policy Statement (2009), as well as climate change and gender requirements. The ESIA shall also document conformance with applicable government laws, regulations, and international and regional conventions. The ESIA team of the consultant, in conjunction with their engineering team, is also expected to apply the mitigation hierarchy in order to avoid, minimize, and restore/offset/compensate impacts to the extent possible.

### **2 Project Components to be included in the ESIA**

The ESIA scope of work shall include all of the following components:

- Hydropower facilities (e.g., dam, reservoir, powerhouse);
- Ancillary facilities (e.g., spoil disposal areas, worker camps, maintenance yards, fabrication shops, fuel depots, explosive magazine, power plant, water plant, quarries and borrow areas, batch plant and crushers);
- Permanent access road to dam and powerhouse, as well as other permanent or temporary construction roads as well as road upgrading works to accommodate construction vehicles; and
- Transmission line (e.g., powerhouse switchyard to substation connecting project to the electrical grid, including any necessary improvements at existing substations or switchyards).

The ESIA shall also include any offsite areas required for reforestation, livelihood restoration, or other environmental and social mitigation etc.

### **3 Monthly Progress Reports**

The Consultant shall submit electronically to DGPC monthly progress reports by the sixth working day of the month for the previous month. The progress report shall include the following:

- Describe key work from the prior month and work plan for the coming month;
- Identify any issues/problems encountered and any important new information obtained, especially that might influence the ability of the Project to meet fin;
- Estimate percent complete for each task; and
- Indicate project status relative to approved schedule and explain any delays and strategy to recover schedule.

*Deliverables – monthly progress reports.*

### **4 Initial Site Visit**

The Consultant will coordinate with DGPC to plan the dates and logistics for the initial site visit. DGPC will accompany the Consultant on the site visit. The Consultant shall arrange an Initial Site Visit Debrief call with the DGPC for the week following the site visit to share key observations and identify any issues/concerns.

*Deliverable – PowerPoint slide deck or similar format for debrief call.*

### **5 Project Description and Area of Influence**

The ESIA team of the consultant shall coordinate with their engineering team to develop a comprehensive Project Description and associated mapping sufficient to conduct the impact assessment. This Project Description should include all project components, ancillary facilities, any associated facilities. The Project

Description should describe how the infrastructure needs of the worker camps (e.g., potable water, wastewater treatment, solid waste management, power, worker housing, health clinics) will be provided. Based on the Initial Site Visit and the above referenced coordination with their engineering team, the ESIA team of the consultant will define the proposed Area of Influence (AoI), which will be the subject of the baseline studies and impact assessment. The AoI shall take into consideration the project footprint/area of disturbance, including the hydropower facility, all ancillary project facilities, the access road, and the transmission line corridor, as well as direct or indirect impacts that may extend beyond the project footprint/area of disturbance including upstream and downstream impacts, and take into account social impacts (e.g., changes in livelihood) due to changes in environmental media as well as environmental impacts.

*Deliverable – brief memo describing and justifying the proposed AoI as well as the Project Description chapter of the ESIA.*

## **6 ESIA Report**

The ESIA report should have:

### **6.1 Title Page**

The title page should contain the following:

- The name and location of the project.
- Name and address (mailing address, telephone number, fax, and email address) of the proponent.
- Name, qualification and address of the ESIA consulting firm

### **6.2 Table of Contents:**

- The title and page number of all sections, abbreviations/ acronyms, maps, plans, tables, figures, and annexure of the environmental assessment reports.

### **6.3 Executive Summary:**

A brief description of the proposed project in clear and non-technical language including:

- The objective and need for the project. Explain whether the proposed project has been identified in the Hydropower Master Plan or not, if yes, what rank the project holds in the plan.
- Summary of project area to be acquired for various appurtenant works and the land use pattern within 5 km from the main project components (i.e., dam structure, midpoint of dam and power house) and catchment area.
- Summary of key findings and recommendations of the assessment, including the details of the main environmental impacts, social issues, project footprint of the main project and ancillary/associated facilities, economic benefits, and impacts covering cumulative impacts and proposed mitigation measures.
- A brief on how the public was consulted and stating the issues raised, resolved and pending.
- A brief description on an assessment of alternatives to the project, its main components and ancillary components with respect to the location, technical design and other environmental and social components.
- A brief description on the climate change impact, vulnerability & adaptation assessment.
- Project financial statement including project cost, funding source and the project activity schedule.
- Name of the organization/consulting firm preparing the ESIA report, and qualifications and experience of experts involved in the ESIA/EMP preparation.
- Project benefits: The local, regional and national benefits of the project should be explained.
- A declaration stating that the information disclosed in the ESIA report is correct.

### **6.4 Maps and Figures**

All the maps should be colored and provided in A3 size.

- A map (1:50,000) specifying the location of the project.
- A study area map (1:50,000) indicating features such as a) total catchment area, b) directly draining catchment area, c) submergence area, & d) project area to be acquired for various project components. The map should also include area of influence including direct impact area, indirect impact area and cumulative impact area.
- A map (1:10,000) showing the land use pattern of the a) directly draining catchment area, b) submergence area, & c) project area to be acquired for various appurtenant works area within 5 km from the main project components (i.e. dam axis, reservoir boundary, power house, HRT, etc.).
- A map (1:10,000) showing locations of human settlements and major constructions including roads and major industries/mines.
- To examine the cascading effect (if applicable), a clear map (1:50,000) showing the approved/under construction/completed hydropower projects on both upstream and downstream of the proposed project.
- A drainage map (1:50,000) of the directly draining catchment up to the project site showing the submergence area.
- Soil map (1:50,000) of the study area showing different regions and soil characteristics.
- Geological map (1:250,000) and siesmo-tectonic map (1:1,000,000) of the study area.
- A map (1:10,000) specifying the forest cover in the upstream and downstream area, and marking the presence of migratory corridors, occurrence of any endangered/threatened flora and fauna species and/or plants and animals of economic/ecological importance.
- A map (1:50,000 clearly showing the location of various monitoring stations (for ambient air, water, noise and soil).
- A map (1:25000) specifying the areas vulnerable to floods.
- Demarcation of snow fed and rain fed areas (1:10,000) for a realistic estimate of the water availability.
- A map (1:10,000) showing the number of villages (with population) getting affected due to the project.
- A map/layout showing the project components.
- A map with appropriate scale showing the proposed transmission and distribution line project together with alternative options, the location of towers, sub-stations and existing infrastructure along the length of new route/alignment.
- Map showing the dewatered reach where E-flow assessment was undertaken.
- Map of reach affected by hydro-peaking and flow-regime alteration of reservoir or dam toe type HPP.

## 6.5 Policy and Legal Framework

- Provide descriptions on the review of existing legislations and policies governing the implementation of the proposed activity and environmental assessment requirements.

## 6.6 Details of the Project Site and Proponent:

- a. Location
- b. Gewog
- c. Dzongkhag
- d. Name of proponent
- e. Geographical coordinates for the location of dam
- f. Geographical coordinates for the location of powerhouse
- g. Geographical coordinates for the location of TRT outlet point
- h. Present mailing address including telephone number, fax and email (if any)
- i. Name and contact address of the environmental focal person

## 6.7 Catchment area characteristics:

- a. Name of the river and major tributaries
- b. Overall description of the catchment area
- c. Total catchment area in km<sup>2</sup> including the catchment area at the dam

- d. Rivers mean annual flow at the project site in Mm3 (MCM)
- e. Maximum mean monthly flow at the project site in Mm3 (MCM)
- f. Minimum mean monthly flow at the project site in Mm3 (MCM)
- g. Probable maximum flood in Mm3 (MCM)
- h. Headworks/spillway design flood in Mm3 (MCM)
- i. Minimum flow of river in m3/sec
- j. Number of tributaries in the dewatered reach
- k. Minimum dry season flow from side streams/rivers in the de-watered stretch

**6.8 Type of project:**

- a. Simple run-off-river
- b. Reservoir run-off-river (e.g., with daily or hourly storage)
- c. Seasonal storage
- d. Pumped storage
- e. With or without an inter-basin diversion
- f. Location of the powerhouse in relation to dam
- g. Installed capacity in megawatts
- h. Energy generation

**6.9 Engineering Characteristics**

**6.9.1 For hydropower plant:**

- a. Type of dam
- b. Dam height in meters (Below and above the river bed)
- c. Dam length in meters
- d. Power house type
- e. Type of turbine(s)
- f. Flow through turbine(s)
- g. Tunnel length in Kms
- h. Tunnel diameter in meters
- i. Total length of access roads in Kms
- j. Surge shaft top and its location
- k. Gross head
- l. Provision for E-flow release
- m. Fish migration – upstream and downstream

**6.9.2 Provide brief information on the construction power:**

- a. Voltage level (in kV)
- b. Tapping point
- c. Termination point
- d. Length of line
- e. Right of Way (RoW)
- f. Conductor (Number of lines and circuits, composition and diameter, minimum height over ground level for overhead lines, depth and trench and fill specifications for underground lines).
- g. Number, type and composition of towers

Note: Detailed information should be provided in line with the Initial Environmental Examination form for transmission and distribution projects - 2017. In addition, please note that the ESIA should be undertaken for power evacuation in line with the endorsed ToR.

**6.10 Reservoir Characteristics**

- a. Reservoir area in hectares
- b. Reservoir length in km
- c. Reservoir volume in Mm3 (MCM)
- d. Reservoir live storage in Mm3 (MCM)
- e. Reservoir dead storage in Mm3 (MCM)

- f. Dead storage available for sediments above intake in Mm3 (MCM)
- g. Storage available for flood retention Mm3 (MCM)
- h. Reservoir draw-down height
- i. Full reservoir water level elevation (meters)

#### **6.11 Permanent Structure for Power Generation**

- a. Main dam
- b. Bottom outlet
- c. Secondary dam and dykes (if applicable)
- d. Intake
- e. Spillway
- f. De-sander, De-siltation tanks
- g. Tunnel
- h. Surge tank (if applicable)
- i. Valve house (if applicable)
- j. Penstock (if applicable)
- k. Powerhouse
- l. Switchyard
- m. Tailrace and headrace tunnel(s)
- n. Re-regulation weir(s) (if applicable)
- o. Permanent access roads
- p. Offices, residential areas and colonies
- q. Reservoir
- r. Adit (s)

#### **6.12 Construction Phase**

- a. The location, area and accommodation details of the camp and office areas.
- b. Temporary access roads.
- c. Size, number, location and capacity of the burrow pits and quarry site to be used for construction purposes.
- d. Muck disposal/spoil areas (in hectares).
- e. The resource requirement (cement, aggregates, steel, etc.) in appropriate units including its source, storage areas, mode of transportation and construction schedule should be presented in the ESIA report

#### **6.13 Operational Phase**

- a. Reservoir filling.
- b. Reservoir operation.
- c. Downstream hydrology and water quality below intake point.
- d. Downstream hydrology and water quality below tailrace.
- e. Downstream hydrology and water quality below re-regulation weir.

#### **6.14 Alternatives to the projects**

Together with their engineering team, the ESIA team of the consultant shall ensure that all alternatives are identified and adequately considered, including for avoiding and/or minimizing as possible any adverse environmental and social impacts, not just technical and economic considerations, and are taken into account in finalizing the project's design. The Consultant shall conduct a robust alternatives analysis applying the mitigation hierarchy's first principle of avoidance of impacts to the extent practicable. It is anticipated that the alternatives analysis will include a description and analysis of all feasible alternatives for all ancillary and associated facilities to the project covering the following:

- The alternative of not undertaking the project (i.e., no-build alternative) in absence of any alternative/ No Project Alternative;
- Description of the project alternatives.
- Analysis of its potential environmental impacts and mitigation measures.

- Principle differences among the feasible alternatives under considerations, particularly regarding potential environmental impacts.
- Reasons for considering the present project over the other alternatives.
- Description of the cleaner technology and environmental management taken into consideration while selecting the equipment and technology.
- Integrated development of Hydropower projects with multipurpose use of water for drinking, irrigation, flood control and recreational purposes.
- The alternative analysis should also cover alternatives for project/facility locations, routing, alignment for transmission line, technologies, and construction methods among others.
- System Alternatives considered by government, including generation of the same energy by alternative sources of power including fossil fuel and other renewables in Bhutan, taking into consideration energy security;
- Dam and Powerhouse Location Alternatives – need to coordinate with the engineering team of the consultant to jointly recommend locations and design in terms of dam height and the full elevation level;
- Sediment Management Alternatives – need to coordinate with the engineering team of the consultant to jointly recommend a sediment management strategy and associated design;
- Ancillary Facilities Location Alternatives (see Section 3.4 for typical ancillary facilities) – need to coordinate with the engineering team of the consultant to jointly recommend ancillary facility locations and designs;
- Access Road Route Alternatives - need to coordinate with the engineering team of the consultant to jointly recommend an access road route and design;
- Transmission Line Alignment Alternatives - need to coordinate with the engineering team of the consultant to jointly recommend a transmission line alignment and design, taking into consideration efforts to avoid legally protected areas and international areas of biodiversity importance, avoiding and/or minimizing physical and economic displacement through design; and
- Project Operation Alternatives - need to coordinate with the engineering team of the consultant to jointly recommend a proposed project operating mode and how operations of the Khomachhu HPP will be integrated with the two existing hydropower projects in Lhuentse.
- Mitigation Alternatives (e.g., E-Flow) - need to coordinate with the Project Engineer to jointly recommend appropriate mitigation options considering technical, economic, environmental and social criteria.

For each alternative, the Consultant’s engineering team and social and environmental experts shall coordinate to evaluate feasible alternatives, identify the preferred alternative with minimal adverse impact as possible, and indicate whether the preferred alternative was adopted into the Project design, and if not, provide an explanation to support the design discussing technical, economic, environmental and social cost-benefit.

The project will impact natural habitat, which requires demonstration that there is “no alternative” that would avoid impacts to natural habitat and that benefits outweigh the costs including the environmental cost.

*Deliverable – alternatives chapter for inclusion in the ESIA*

## **6.15 Description of Existing Environment of the Project Area (Baseline Data)**

The ESIA report must present recent and relevant four seasons’ baseline information pertaining to the geo-physical, biological, socio-economic and cultural situation of the area under study, including any changes anticipated prior to project implementation. Baseline information should be provided within the 5 km radius from the dam structure, midpoint of dam and powerhouse, and the powerhouse. The study area should be defined as the area of influence, including direct impact area, indirect impact area and cumulative impact area.

This section should provide detailed description and analysis of the type of baseline data and information collected, methodology used for data collection and explain how they were used, and the time and frequency of data collection. Based on the data collected, describe the existing baseline environmental and socio-economic conditions in quantitative and qualitative terms including comparison/analysis of the previous baseline data with the recent data.

Predictive, quantitative models and standards should be used for baseline data collection wherever possible to avoid vague and subjective predictions. Some of the models, but not limited to, are available in the 'Environmental Assessment Guideline for Hydropower Projects, 2012'. In addition, the public and relevant stakeholder agencies should be involved during socio-economic data collection.

The Consultant shall execute the baseline studies to characterize the existing physical, biological, and social conditions within the AoI. In addition to the baseline write up the raw data linked to GIS will be shared with the DGPC. The baseline studies scope should meet the following requirements, or the GoB requirements, whichever are more stringent.

### 6.15.1 Physical Environment

The Consultant shall conduct baseline surveys to characterize existing ambient physical environment conditions described below:

**Land Environment:** Provide details of land use pattern, land cover (forested, agricultural, degraded, built up, non-built-up areas, etc.) by area, topography, soil characteristics, slope stability in the 5 km study area.

**Geological and Geospatial Aspects:** The consultant shall cover geography and physiography of the site. The consultant shall also cover regional geology. The consultant shall conduct critical review of the geological features around the project area. The consultant shall identify the current and potential landslide prone areas in and around the project area. The past records of landslides occurrence in the region should be scrutinized and information such as past events of landslides, area affected, frequency of occurrence per decade, geomorphologic conditions and degree of susceptibility to mass movement should be provided. The consultant shall also justify location and execution of the project in relation to structural components

**Siesmo-tectonics:** The consultant shall provide site-specific information on earthquake parameters and study on Design Earthquake parameters. The consultant shall prepare detailed description of seismic character of the study area should be included.

**Protected Area:** The consultant shall determine the presence of the protected area and the biotic pressure on it at project site. DGPC to provide required files on protected areas of Bhutan. The consultant shall prepare a management plan for protected area (if any) and list of threatened/endangered flora and fauna including their habitat and associations as per FNCA 2023 and IUCN red list.

**Air quality:** The Consultant shall determine ambient air quality conditions by collecting air quality samples for standard parameters (e.g., NO<sub>x</sub>, SO<sub>x</sub>, Particulate Matter (PM) 10, PM<sub>2.5</sub>) over a period of at least 24 hours following nationally stipulated methods near the proposed dam and powerhouse sites, quarry sites, muck disposal sites, off-site access routes as well as the nearby villages at least during the dry, pre-monsoon, monsoon and post monsoon season.

**Hydrology and hydrogeology:** The Consultant shall gather available flow data for the Khomachhu River from existing river gauging stations and measurements at the downstream of Khomachhu. The Consultant shall also investigate the hydrogeology in the direct impact area by collecting flow and water quality samples at springs and untreated water from nearby wells. If the Project proposes to use groundwater as a potable water source for the worker camp, then the ESIA team of the consultant is expected to coordinate with their engineering team to conduct pump tests to determine potential effects on groundwater levels in the Project area. The consultant shall present monthly flow rates and the average annual flow rates of the river.

The consultant shall take following points into consideration:

- Hydrology of the basin
- Hydro-meteorology, drainage system
- Rainfall-runoff data
- Hydrology and length of the dewatered area
- Source and possibility of a Glacial Lake Outburst Flood (GLOF) must be documented.
- Flood and its recurrence interval including data related to the frequency of floods, its location and maximum flood levels should be collected and presented in the ESIA report.
- Catastrophic events like cloudburst and flash floods, if any, should be documented.
- Water availability for the project and the aquatic fauna. The flow measurements shall be planned and executed in such a way that average, maximum, mean maximum, mean minimum and absolute lean flows should be modeled or measured.
- Sedimentation rate

**Water quality:** The Consultant shall collect water quality samples from different sampling stations including upstream of the dam, downstream of the power house and other major components to characterize project water quality at least during the dry, pre-monsoon, monsoon, and post-monsoon periods following nationally stipulated methods. The Consultant shall propose location of wastewater discharges and the locations should include those used for aquatic ecology surveys. The sampling parameters shall at least include total suspended sediment, turbidity, pH, nutrients, applicable metals, dissolved oxygen, temperature, and coliforms. For proposed potable water sources, a full suite of GoB drinking water standards will be tested. The consultant shall study and provide information on current downstream water use in keeping with the principles of National Water Resources Management Plan, 2016.

**Soils:** The Consultant shall collect soil samples in any areas where there is evidence to suggest potential soil contamination and test them for parameters applicable to the suspected contamination risk and soil fertility following nationally stipulated methods.

**Noise:** The Consultant shall conduct noise monitoring at least at the proposed dam and powerhouse work areas, quarry sites, muck disposal sites, construction work camp locations, and off-site access routes as well as the nearby villages to characterize ambient noise levels at nearby noise sensitive receptors (e.g., residences, schools, health clinics) taking measurements of one-hour LAeq over a 48-hour period following nationally stipulated methods.

### 6.15.2 Biological Environment

The Consultant shall conduct biological surveys to characterize the terrestrial and aquatic biodiversity of the AoI. These studies shall include at least the following terrestrial and aquatic field surveys. Biological surveys will be seasonal, to be timed to pick up periods when the most sensitive species could be present.

**Terrestrial habitat surveys:** The Consultant shall conduct four seasonal terrestrial surveys that at a minimum include the following:

- Map vegetative communities within the AoI using a combination of field surveys and aerial imagery interpretation sufficient to distinguish natural and modified habitats. Particular attention shall be given to riparian habitats and potential future submerged areas;
- Identify and characterize types of forest land within the project area of disturbance including protected and reserve forest as well as undesignated forest, tree enumeration and survey of forest quality sufficient to inform no net loss calculations;
- Provide information on the floral biodiversity resources of the river basin and project area
- Total forest cover, type of forests, change in forest cover and threats and degradation of forests
- Vegetation profile and number of species in the project area
- Predominant flora and introduced exotic flora
- Species Diversity Index of the biodiversity and Importance Value Index of the predominant species

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<sup>1</sup> The water quality study for Khomachhu was conducted for three seasons by Sherubtse College. The consultant shall review and incorporate existing reports or carry out additional study, if required.

- Documentation of economically important plants, medicinal as well as timber, fuel wood, non-wood timber products, etc.
- Endemic, endangered and threatened species and their geographical distribution as per Forest and Nature Conservation Act 2023 and IUCN red list
- Location of any protected areas, biological corridors, conservation hotspots and other ecological sensitive areas in the project area.
- The carbon capturing potential of the forest land to be diverted or submerged
- Surveys of mammals, birds, amphibians, reptiles, invertebrates, and plants supported by impacted habitats; specifically include biodiversity surveys targeted for any critically endangered, endangered, or vulnerable species (as identified by IUCN red lists) or other critical habitat triggers potentially present in the AoI, so as to document their presence or absence and population estimates in the AoI to help refine screening of critical habitat triggers and the critical habitat assessment. If the rarity of the species potentially triggering Critical Habitat will make direct observation unlikely, alternative methods (e.g. e-DNA, habitat suitability studies) should be used.
- Present status of wildlife as per Forest and Nature Conservation Act 2023 and IUCN Red list including their habitat condition (separately for aquatic habitat, terrestrial habitat and arboreal habitat.
- Calculate Species Diversity Index of the biodiversity and importance Value Index (IVI) of the predominant species.

**Aquatic surveys:** The study/sampling should be carried out in following locations at appropriate locations such as in the reservoir, upstream and downstream of the Dam. The consultant shall conduct four seasonal aquatic surveys that at a minimum and should comprise the following:

- Inventory of existing aquatic fauna like micro-invertebrates, zooplankton, benthos, etc.
- Study the fish population and fish diversity in the influence area of the project.
- Identification of spawning habitats in the main river and its tributaries, and migratory pattern.<sup>2</sup>
- Specifically include biodiversity surveys targeted for any critically endangered, endangered or vulnerable aquatic species as identified by the IUCN or the Bhutan Schedule I, II and III.
- Assess the fluvial geomorphology of the river downstream of the powerhouse to understand the risk of geomorphic impacts from the proposed Project peaking operations (riverbed and bank erosions)
- Conduct a critical habitat screening and assessment on aquatic and riparian ecosystem in line with ADB/WB requirements and relevant government regulations, including no net loss and/or net gain, where applicable/relevant
- Assess the fluvial geomorphology of the river downstream of the powerhouse to understand the risk of geomorphic impacts from the proposed Project peaking operations (e.g., riverbank or riverbed erosion, channel armouring etc.); and

**General requirement:** The consultant shall also consult with appropriate international, national and/or regional species experts in making decisions regarding potential Critical Habitat species that may be affected by the project and documenting these consultations.

**Ecosystem Services:** The Consultant shall conduct an ecosystem services survey. It is expected that this survey should focus on provisioning services (e.g., food, fuel, and timber benefits, and specifically quantifying seasonal fish catch, the number of households whose livelihoods are dependent on these provisioning services) and cultural services (e.g., spiritual, recreational, and aesthetic benefits). These data will primarily be captured through the various social science methods. This survey should fully document the affected communities' use of the Khomachhu and other affected terrestrial habitats. It shall document the extent of community use and reliance on these services, whether there is any seasonality to their use, and evaluate potential alternatives for the use or replacement of these services.

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<sup>2</sup> The aquatic study for Khomachhu was conducted for three seasons by Sherubtse College. The consultant shall incorporate existing reports and carry out additional study, if required.

### **6.15.3 Cultural Environment**

The consultant shall conduct inventory of Cultural heritage (both tangible and intangible) that may be affected directly or indirectly by the proposed project including from its ancillary facilities in consultation with the Department of Culture and Local government.

### **6.15.4 Minimum E-flow Assessment**

The consultant shall conduct assessment of minimum E-flow should be undertaken in line with the “Guideline to Determine Minimum Environmental Flow Regulations for Dewatered Reaches of Hydropower Projects in Bhutan, 2019”. The consultant shall determine the approach and methodology to be applied for E-flow assessment can be undertaken as per the Decision-Making Tree under the E-flow guideline. The consultant shall also be responsible for site selection for dewatered reach for E-flow assessment, reach affected by hydro-peaking and flow-regime alteration. The consultant shall use the decision tree in the Environmental Flows for Hydropower Project Good Practice Handbook (IFC, 2018) to determine the appropriate resolution of the EFlow study (i.e., High, Medium, or Low resolution). This E-Flow study shall consider biological, social, cultural, transportation, recreation, irrigation, and any other downstream water users/uses. Include an estimation of the uncertainty of the model and a monitoring plan with provisions for an adaptive management of the flow based on specific parameters (e.g., fish or other critical biodiversity features impacts). The e-flow recommendations should also include the provision of “freshes” (e.g., high-flow periods necessary to trigger biological responses) and/or “morphogenic flows” to address the downstream sediment starvation impacts.

### **6.15.5 Socio-economic Data**

The consultant shall conduct a social baseline survey, which is expected to include the following social science methods:

- Project affected household socio-economic surveys (sample size of average 20- 25% of total affected households, subject to total number of affected households to be identified) to generally characterize the socioeconomics and demographics of the affected households in the AoI. Consultant should conduct also a 100% census of all physically or economically displaced households (whether permanently or temporarily displaced), total area of private and non-private land to be affected by the project, inventory of other affected non-land assets and livelihoods, and costs for compensation and mitigations of such impacts for preparation of the Resettlement Plan, and a statistically valid survey of other households within the AoI for each project including those downstream potentially affected by the peaking power operation;
- Focus group discussions (FGD) with key groups such as women, fisherfolks, and other river-based livelihoods, farmers, users of ecosystem services (e.g., non- timber forest products), and other vulnerable groups; and
- Key Informant Interviews (KII) with local officials, health workers, national park managers, and other key informants identified by the Consultant.

Based on this information, the Consultant shall document the socio-economic conditions of the project affected households within the AoI, including the following:

- Administrative, governance, and political context;
- Demographic and ethnicity of the population in the vicinity
- Presence of Indigenous People;
- Religion, Family Life, and Social Organization;
- Education Attainment;
- Language and Literacy
- Economic structure
- Land Ownership and details (agricultural or forest land required for the project)
- Employment and livelihoods
- Household Income and Expenditures

- Dietary Habits and Food Sources
- Study on the structural integrity of the existing private and public structures
- Living Conditions (e.g. house condition, potable water source, wastewater disposal, electricity supply)
- Community Health and Wellbeing including access to community facilities (e.g., health facilities) and communication (e.g., phone, internet access) and identify key organizations (e.g., non-governmental organizations, civil society groups) active in the area
- Transport and access
- Traffic Density in the project area
- Waste Management Facilities (solid and hazardous waste)
- Cultural Heritage (tangible and non-tangible, including Physical Cultural Resources)
- Existing public infrastructure (permanent, semi-permanent, temporary structures) and social services available to the affected population including education, road, health, water and sanitation, communication, network facilities, etc.
- River and Other Water Source Use (e.g. navigation, fishing, bathing, washing, and drinking).<sup>3</sup>

*Deliverable – Baseline chapter for inclusion in the ESIA with supporting GIS maps.*

## **6.16 Public Consultation**

Public consultation needs to be carried out as per Article 16 of the Environment Assessment (EA) Act 2000, and Section 41 of the Regulation for Environmental Clearance of Projects (RECOP) 2016. The proponent must explain the expected impacts (both positive and negative) of the proposed project to the public and stakeholder agencies, listen to the concerns raised, provide clarifications and maintain record as follows:

- Description of issues raised and resolved during the consultation. List out pending issues and the proponent's views on the pending issues and how it will be addressed by the project.
- Provide evidence of public meeting and participation duly authenticated by the Local Government and Dzongkhag.
- Provide records of public consultation signed by the member(s) of the concerned local authority present during the public consultation.

## **6.17 Assessment of Environmental Impacts**

The consultant shall conduct impact assessments and shall include all project direct and indirect environmental and social impacts and risks from all project components for each project in an integrated and holistic manner. The Consultant will conduct the necessary assessment of potential impacts and risks of the construction and operation of hydropower and its allied activities and alternatives so as to determine their pre-mitigation significance, propose Good International Industry Practice (GIIP) measures to mitigate these impacts, and determine the significance of the project's residual (post-mitigation) impacts. Impacts will be quantified where appropriate. The Consultant shall distinguish direct and indirect construction (including site preparation and establishment) and operation phase impacts as well as cumulative and induced impacts.

Predictions of impacts should be accompanied by commonly used quantitative and qualitative methods and models available, but not limited to, in the 'Environmental Assessment Guideline for Hydropower Projects, 2012'.

The ESIA Report should contain a list of both adverse and beneficial impacts anticipated as consequences of the proposed Project activities at different stages of project cycle and the following ancillary activities but not limited to:

- Submerged area

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<sup>3</sup> *The raw data for the socio-economic survey have been collected by DGPC. The consultant shall analyze and prepare the report using available data. The consultant shall carry out additional studies, if required.*

- Dewatered area and regime change
- Permanent colony, labour camps and offices, stores and other temporary structures
- Proposed roads
- Batching and mixing plants
- Construction material extraction (Quarry)
- Stacking Yards, workshop and job facilities
- Muck disposal sites
- Preconstruction power
- All other ancillary facilities

The impacts to be predicted and quantified, as far as possible in context of their magnitudes, location and duration. Matrices, networks, checklists and questionnaires used in the process of identifying impacts should be appended in the annexes. Any environmental quality standards or socio-economic measures applied in the assessment should be stated. The impacts should be grouped into following categories.

### **Physical Impacts**

The Consultant will assess Project effects on:

#### **Physical Environment**

- Changes in land use/land cover and drainage pattern
- Changes in land quality including effects of waste disposal
- Riverbank and their stability
- Impact due to submergence and diversion of the river course
- Impact of workforce on the local resources
- Impact due to induced infrastructure development (if applicable)
- Soils from clearing and grading activities resulting in erosion and sedimentation as well as pollution risks – the volumes of soil moved and muck generated and disposal areas quantified and identified;

#### **Water Environment**

- Changes in surface and ground water quality due to construction activities and induced development.
- Impact due to reduced flow in the dewatered stretch.
- Changes in the hydraulic regime and downstream flow.
- Sedimentation of reservoir
- Downstream siltation during construction
- Impact on current water use
- Impact on the ground water flow and recharge due to tunneling works and impact on surface water bodies, etc.
- Impact of pollution load i.e., sewage disposal, sanitation, etc.
- Impact of muck disposal on water bodies
- Hydrology has to be described pre- and post-Project for the affected sections of the river. The baseline flows and post-project flows should be presented clearly showing changes in river flow from the effect of the project. This discussion should clearly indicate the flow data and estimation methods applied, and describe the catchment size and land cover; seasonality of river flows; and elevation, grade and accessibility (for river use) of the river sections where flow is reduced.
- Water quantity and quality from water abstraction, wastewater discharges, erosion and sedimentation, pollution risks e.g. potential spills, poor solid and hazardous waste management, risks of groundwater flow interruption
- Flow as a result of project construction and proposed operations – to be informed by the results of the E-Flow assessment;
- Sediment as a result of project construction and proposed operations – to be informed by the E-Flow assessment. Catchment and sediment management plans will need to be part of the ESMP

## **Air and Noise Environment**

- Changes in ambient and ground level concentrations due to total emissions from point and non-point (fugitive) sources.
- Changes in ambient levels due to noise generated from equipment, blasting operations and movement of vehicles.
- Impacts on health of human and wildlife due to changes in air and noise quality.
- Air quality as a result of project-related emissions from stationary and mobile sources;
- Noise sensitive receptors from construction equipment and activities and project operations – these effects must be modeled/quantified and compared to Good International Industry Practice (GIIP, e.g., WB ESH guidelines or national standards);
- Vibration from heavy truck traffic and use of explosives, including potential for property damage – the effects must be quantified and compared to GIIP standards/guidelines with an explosives management plan in the ESMP; and
- GHG emissions including from the reservoir – the effects must be quantified.

## **Biological Impacts**

The Consultant will quantify habitat and species lost to the extent possible, document how the requirements and no net loss or net gain of natural habitat will be achieved, and, if applicable, how no net loss or a net gain in biodiversity will be achieved in relation to any identified Critical Habitat species. Biodiversity Management Plans will need to be included in the ESMP and, if necessary, a Biodiversity Offset Plan (BOP) will also be needed if any residual impacts will be identified. The BOP shall clearly demonstrate that the offset is feasible by identifying appropriate offset areas, identifying implementation arrangements, consulting with the potential affected communities and other stakeholders, and establishing a long-term financial mechanism that will need to remain in place for the duration of the project, potentially in perpetuity. Offsets must only be used if the government is able to commit to their protection in the long-term. The consultant shall also study:

- Impact on forests, flora, fauna including wildlife, migratory avi-fauna, rare threatened and endangered species, medicinal plants, etc.
- Pressure on existing natural resources
- Changes in aquatic ecosystem
- Impact on breeding and nesting grounds of animals and fish, if any.
- Impact on fish migration and habitat degradation and/or loss due to decreased flow of water.
- Impact on animal distribution, migration routes (if any), habitat fragmentation and destruction.

## **Important Areas**

- a. Legally protected areas
- b. Areas of biodiversity importance, such as Important Bird Areas and Key Biodiversity Areas (KBA)

## **Terrestrial Biodiversity**

- a. Terrestrial habitat and species, taking into account habitat loss and fragmentation including tree cutting and forest clearing
- b. Terrestrial Natural habitats
- c. Terrestrial Critical habitats/species

## **Aquatic Biodiversity**

- a. Aquatic Habitat and species, taking into consideration the recommended EFlow and consideration of ramping rates and the sediment flushing regime
- b. Aquatic Natural Habitat
- c. Aquatic Critical Habitat/species
- d. River Connectivity (including lateral and vertical connectivity)

## **Social Impacts**

The Consultant will assess how the project impacts on socio-economic status of affected population including:

- Impact of land acquisition including a list of all affected families including names of family members, age, educational qualification, source of income, land holdings, house/land to be acquired and house/land left after acquisition, details of any other property in possession and getting affected, animal possession, type of house, etc., number of houses, huts and other infrastructure that will be lost as a result of construction of various project components.
- Impact on local economy including demographic changes
- Impact due to immigration of labour population
- Impact on human health, hygiene and communicable disease risks
- Impact due to increase in traffic
- Impact and risks on gender and vulnerable groups
- Impact on cultural heritage (both tangible and intangible) such as archaeological, paleontological, historical, religious, pilgrims' properties, sacred sites, and traditions and customs among others. Any cultural heritage present in the project area and study area should be verified by the Department of Culture and Dzongkha Development, MoHA and Local Government. Further, views of DoCDD, MoHA must be sought and submitted to DECC.
- Indigenous Peoples
- Labor and Working Conditions, including a Labor Management Plan in the ESMP, and Occupational Health and Safety (risk assessment approach)
- Community Health and Safety, including disclosure of the results of the Engineers' Dam Break Analysis and including an Emergency Preparedness and Response Plan for dam break and other emergency circumstances in the ESMP
- Gender, including sexual exploitation, abuse, and harassment
- Influx of workers and possibly their families, including pressure on community infrastructure and resources and social unrest

### **Minimum E-flow Impacts**

Impacts of different E-flow scenarios on conservation, energy generation, socio-economic and cultural aspects, and hydrological regime.

### **Climate Change Impacts**

Detailed description of climate change study (using appropriate methodology) should be provided. A hydrological assessment of its watershed and the likely hydrological and allied risks associated under different climate change scenarios should be presented. And the change in project design, and implementation and management plan as per projections and scenarios under changing climate should also be included. The assessment should encompass the following:

- Impacts of temperature and precipitation due to changing climate
- Impacts of climate change in the hydrological regime
- Impacts of climate change during the operational life of the project
- Vulnerability of a hydropower project to climate change, considering its geographic, regulatory, technical and socio-environmental characteristics.
- Identification and assessment of climate risks
- The risks and opportunities for the hydropower projects
- Hydrological and other associated risks
- Assessment of likely Greenhouse Gas (GHG) emission from the project (Reservoir) and its implication on Carbon Neutral Policy of the country.

### **Cross-cutting Impacts**

- Climate Change and Disaster Risk – including natural hazards such as earthquake, seismic, glacial lake outburst floods, and landslide risk)
- Ecosystem Services – especially impacts on river uses and livelihoods.

*Deliverable – Impact chapters for inclusion in the ESIA.*

### **Cumulative Impact Assessment**

The Consultant shall prepare a Cumulative Impact Assessment (CIA). The CIA shall generally follow the guidance of the International Finance Corporation’s Good Practice Handbook on Cumulative Impact Assessment (2013). The Consultant shall propose the spatial and temporal boundaries for the impact assessment.

The Consultant should take into consideration other proposed hydropower, transmission line, road, and other planned future activities that could interact with the proposed project and result in cumulative impacts. Based on the consultations conducted as part of the scoping process and the local community FGD and KII, the Consultant will recommend the important Valued Environmental and Social Components (VECs) to be evaluated in the CIA.

*Deliverable – Cumulative Impact Assessment for inclusion as an appendix to the ESIA.*

### **6.18 Stakeholder Engagement**

The Consultant will prepare a Stakeholder Engagement Plan (SEP), which will describe how the Project will engage with Project Affected Persons (PAPs) and other stakeholders throughout the duration of the ESIA process and the project implementation and establish the framework for a tiered project level grievance redress mechanism.

The objectives of the SEP are:

- To identify the stakeholders and establish a systematic approach to stakeholder engagement that will help the borrower build and maintain a constructive relationship with each potentially Project affected persons (PAP) and community in the AoI and other stakeholders with an interest in the project;
- To provide means for effective and inclusive engagement with Project- affected parties and other interested parties throughout the project life cycle on issues that could potentially affect them. This should include specific efforts to include vulnerable groups and women through separate Focus Group Discussions or other means;
- To assess the level of stakeholder interest and support for the project;
- To enable stakeholders’ views to be taken into account in the project design and to improve the environmental and social sustainability of the Project;
- To ensure that appropriate Project information on environmental, resettlement and social impacts and risks is disclosed to stakeholders in a timely, understandable, meaningful, accessible, and appropriate manner and format (i.e., all local communication materials shall be prepared in English for review, but translated to Dzongkha and all community meetings shall be conducted in Dzongkha); and
- To provide PAP with accessible and inclusive means to raise issues and grievances and allow the borrower to respond to and manage such grievances.

This SEP shall identify the key stakeholders, and describe the strategy, frequency, focus, and responsible party for the engagement with each stakeholder or stakeholder group. For the duration of the ESIA process, the responsible party for most engagements will be the Consultant. The SEP should also describe the grievance mechanism and include the grievance mechanism as an appendix, and the relationship of the SEP with the resettlement process.

*Deliverables – draft and final SEP, with a proposed grievance mechanism as an appendix.*

## 6.19 Resettlement Action Plan (RAP)

The proposed project will require private land to be acquired for construction of project infrastructure. Land acquisition from submergence area is expected to be substantial. Such land acquisition may induce involuntary resettlement, disturb indigenous communities/ethnic minorities, and impact on cultural properties of significance. Therefore, a detailed resettlement plan will have to be prepared. The consultant shall acquire cadastral data and socio-economic data to prepare a detailed resettlement action plan based on following task:

- Record any measures taken to reduce land acquisition and resettlement impacts through changes in the design of the project.
- Mobilize and train enumerators. Lead and provide overall guidance and supervision to enumerators in data collection. Ensure data quality control. Check and review the outputs submitted by enumerators to ensure accuracy, completeness and consistency of responses, conduct validation checks of a sample of accomplished questionnaires to ensure data reliability and consistency. Data analysis and reporting.
- Conduct participatory rapid appraisal (PRA) in the project area. Identify key stakeholders and conduct meaningful consultations with them about the project and resettlement effects.
- Identify any vulnerable groups who might require special assistance and consult with them.
- Conduct a census of all the people potentially affected, to determine the scope and magnitude of likely resettlement effects, and to record likely losses. Suggest a cut-off date for entitlements.
- Conduct a socioeconomic survey of a sample of 30-50 percent of the people affected. Establish a baseline of incomes and expenditures, occupational and livelihood patterns, use of resources, use of common property (water sources, irrigation channels, wetlands, etc.), social organization, leadership patterns, local community organizations, and cultural parameters.
- Consult with the agencies (central as well as dzongkhag-level) responsible for land acquisition, land replacement, valuation of assets, and compensation rates.
- Review laws, regulations and directives of the RGOB that apply to land acquisition, resettlement, and compensation. In this review consider the method for valuing assets, the timing and method of paying compensation, the legal and administrative procedures applicable, land titling, and registration procedures.
- Prepare an entitlement matrix listing all likely effects of permanent as well as temporary land acquisition. Establish criteria for the eligibility of resettlement assistance and benefits of affected households. Prepare standards for compensation and restoration of the social and economic base of the people affected to replace all types of losses.
- If APs are displaced and need to be relocated, prepare options for relocation and for income restoration which build upon the existing social, economic and cultural parameters both of the people affected and of any host populations. Provide for relocation costs, lost income, and income support during transition.
- Prepare a framework for participation of APs. All APs should be meaningfully consulted when designing entitlements and the implementation of land acquisition and resettlement. Prepare special measures for consultation with any vulnerable groups. Specify mechanisms for the resolution of grievances and an appeals procedure.
- Prepare an institutional framework that designates responsibilities to provide compensation, undertake relocation work, take responsibility for income restoration, supervise, manage, and monitor the implementation of land acquisition, land replacement and resettlement activities.
- Prepare a monitoring and evaluation plan, identifying the responsibilities, time frame, and key indicators. Specify the time frame for monitoring and reporting.
- Prepare a time-bound implementation schedule for land acquisition and resettlement in conjunction with the agreed implementation schedule for project components, showing how APs will be compensated before actual acquisition of the affected land, or before demolition of any affected structures.

- Prepare an indicative budget. Prepare indicative land acquisition and resettlement costs. Prepare budgetary allocation and timing. Specify sources of funding and approval process. Prepare an annual budget estimate for resettlement by major category of expenditures

*Deliverable – Resettlement Action Plan (RAP) for inclusion as an appendix to the ESIA.*

## **6.20 Environmental and Social Management Plan**

The Consultant shall prepare an Environmental and Social Management Plan (ESMP) as an appendix to the ESIA. This ESMP shall identify the minimum requirements that the Project Construction Contractor and DGPC need to implement to manage the environmental and social risks and impacts identified in the ESIA. The consultant shall prepare ESMP outlining how the monitoring plan of Project construction and operation will be elaborated. The consultant shall prepare a report that clearly specify the nature of the monitoring required, stipulating who should undertake these activities, the cost and any other necessary inputs. The time schedule for monitoring should also be specified. The report should provide a comprehensive plan covering the environmental and social variables to be monitored, and provide the location and timing of sampling and measurement of the variables. The report should include baseline, compliance and impact monitoring and indicators to be measured for each of them. The name the institutions responsible for monitoring the different variables and how the management plan is expected to influence the operation of the project should be included. The consultant shall provide sufficient guidance and prepare a 'training needs assessment on sampling protocol and analytical standards to ensure the generation of reliable data.

The Construction Contractor is expected to develop a detailed construction ESMP including site- or activity specific sub-plans, such as health and safety risk assessments and plans for approval by the borrower reflecting at least the minimum requirements identified in the ESMP whilst the borrower is similarly expected to develop an operational environmental and social management system (ESMS) for the operational stage.

Each Management Plan is expected to include the following information:

- Purpose of the Management Plan
- Key Project Risks and Impacts to address
- Institutional arrangements
- Contractor Responsibilities and Minimum Requirements
- DGPC Responsibilities and Minimum Requirements (including PMC if being proposed)
- Mitigation Requirements – including tabular mitigation plan
- Monitoring and Reporting Requirements – including tabular quantitative monitoring plan
- Implementation Schedule
- Training Requirements
- Budget and funding source
- Mechanism to self-monitoring for compliance with environmental regulations.
- Monitoring of quality of water, air, noise, vibration and occupational health status of project personnel and surrounding habitations and vulnerable population.
- Description of the administrative aspects and planned monitoring program to evaluate the effectiveness of various/specific aspects of technological/mitigation measures.
- Environmental audit of various activities including budgeting and financial management with reference to environmental management.
- Hydro geological monitoring for the entire life of the project.
- Analysis of data, its interpretation and evaluation of any additional studies to be carried out if required.
- Closure/Decommissioning Plan for the project activities along with the fund requirement for implementation of the activities.
- Monitoring of maintenance of minimum E-flow

- In case of hydropeaking; monitoring of flow fluctuations & upramping/downramping periods in relevant time steps (e.g. 10 minutes)
- Access to tributaries, especially if they are spawning areas, must be monitored (it could be that measures need to be taken after every flood season to restore access).
- Monitoring, evaluation and reporting of climate change impacts and risks.
- Cost and budget outlay for all the plans: Cost for implementing all the EMP including the cost for implementing Environmental Monitoring Programme, aforesaid compensation, mitigation and management measures (Clearly outline a summary of cost estimate for implementing all the EMPs including the cost for implementation of environmental monitoring programme and operation of Environment Management Cell).

*Deliverable – an ESMP for inclusion as an appendix to the ESIA (should be able to be a stand-alone document).*

## **6.21 Additional Studies**

This section contains a description of other major studies that may be undertaken in support of the preparation of the ESIA. If formal studies on environmental valuation and environmental risk assessment have been undertaken as part of the ESIA, these need to be included.

### **6.21.1 Environmental Valuation**

Environmental Valuation provides means of assessing the benefits of environmental conservation and its contribution to the national economy. Based on such study, the benefits of the proposed Project and environmental conservation can be compared and decisions could be made accordingly. Therefore, this part of the study should assess the economic value of the conservation and protection of the environment in the proposed Project area and comparison of benefits with the proposed Project should be presented.

### **6.21.2 Environmental Risk Assessment**

An environmental risk assessment may be a necessary part of the ESIA if there is considerable uncertainty about the likelihood or the magnitude of environmental impacts. The data collected during the basic ESIA studies provides much of the information needed for explicitly dealing with the uncertainties relating to environment impacts. There are two major categories of risk: 1) those to human health, and 2) those to ecosystem integrity. The primary goal of environmental risk assessment is to evaluate risks, their monetary costs, the costs of emergency response and/or avoidance of risk.

Environmental risk assessment studies require a high degree of scientific and mathematical rigor and may be costly if not properly planned.

### **6.21.3 Greenhouse Gas Emissions**

The management may present emission savings from the generation of renewable energy as this is one of the major project benefits. Accordingly, the volume of CO<sub>2</sub> emissions that will be avoided per annum by the generation of renewable energy from the Project as opposed to the volume of CO<sub>2</sub> that would be emitted by the generation of an equivalent amount of power from the current mix of generation supplying the National Grid should be estimated.

### **6.21.4 Climate Resilience Study**

Climate Resilience Study assesses the vulnerability of the Khomachhu Project to climate change and identifies measures to enhance its resilience. The consultant shall assess the risk and vulnerability of climate change impacts and submit a comprehensive report on climate risks and resilience strategies for the project. The consultant shall provide recommendations for integrating climate resilience into project design and operations.

- Analyze historical climate data and future climate projections for the project area, including temperature, precipitation, and extreme weather events. Use climate data sources and projections relevant to Bhutan.
- Identify potential climate-related risks to the Khomachhu HPP, such as increased flooding, droughts, glacial lake outburst floods (GLOFs), and changes in river flow patterns
- Assess the potential impacts of these risks on project infrastructure, operations, and surrounding communities.
- Evaluate the vulnerability of key project components (dam, reservoir, powerhouse, transmission lines, etc.) to identify climate risks.
- Assess the vulnerability of local communities and ecosystems that depend on the river and surrounding resources.
- Consider the potential for cascading impacts, where climate change exacerbates existing environmental and social vulnerabilities.
- Identify and evaluate a range of adaptation measures to enhance the climate resilience of the Khomachhu HPP.

### **6.21.5 Labor Management Plan**

Continuing from and based on the identification of different project workers and risk analysis carried out under the ESIA, the consultant will develop a Labor Management Procedure (LMP) that will set out the way in which project workers will be managed, in accordance with the requirements of national law and international requirements (such as WB's ESS2). Key elements of the LMP should include:

- Description of the types of project workers to be employed under the project.
- Description of the anticipated risks, including Occupational Health and Safety, and its analysis.
- Review of the relevant national laws, regulations and policies related to labor management, including child labor, forced labor, etc.
- Laying out the policies and principles to be followed under the project, including terms and conditions of employment.
- A general code of conduct for project workers and gender-based violence management plan to minimize/mitigate such risks.
- Implementation arrangements, including delineation of responsibilities among PMU, contractors, sub-contractors, as well as management procedures and staffing plan.
- Contractor management.
- A grievance redress mechanism, to be established specifically for project workers.

At the same time, the project will also need to come up with actions to manage issues related to the other influx of in-migrants, including workers' family members, and the "camp-followers" who come in for business opportunities. This is probably beyond the contractors' obligation and would need close involvement of local administrations and the project office in their planning and implementation.

### **6.21.6 Gender & Vulnerability Assessment**

The Consultant shall develop gender and vulnerability action plan by carrying an analysis on gender and vulnerability in the project area as part of the ESIA, including risks of gender-based-violence, to inform gender action planning and interventions related to vulnerable groups.

One particular risk is related to gender-based-violence (GBV)/Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) particularly with the estimated influx of population. This risk needs to be assessed and required mitigation measures need to be planned. All the above should be documented in the ESIA. Based on this analysis, the consultant will develop an action plan on gender and for the vulnerable population, including specific actions against GBV. This plan could be included in the EMP.

## **7 GIS and Mapping**

The Consultant shall develop GIS maps to document existing conditions (e.g., land covers, natural and modified habitats, sampling locations, village locations, community facilities such as water sources and health clinics, cultural sites), the location of project facilities (e.g., dam, powerhouse, worker camps, spoil disposal areas, other ancillary facilities, transportation corridors, access roads, transmission line), as well as key impacts (e.g., Project area of disturbance, location of physically displaced households). The GIS database should also include cadastral maps including all land acquisition and be made available to DGPC and funding bodies.

## **8 Inputs to Bidding and Contract Documents**

The Consultant will also provide input to the DGPC in terms of the construction contractor's bid and contract documents. This shall include contractor staffing requirements, BoQ cost items, and language in the main contract clauses requiring the contractor to implement the ESMP in the bid/contract documents, as well as penalties for non-compliance, a short section highlighting key contractor responsibilities (e.g., Worker Code of Conduct, Worker Grievance Mechanism, provision of appropriate PPE, provision of worker accommodations in conformance with ILO and IFC/EBRD good practice guidance, identifying any key mitigation requirements involving design and construction (e.g., EFlow release facilities), identifying the need to update the ESIA in relation to design changes including for ancillary facilities, and including the ESMP as an appendix to the bid/contract documents. The Consultant will also provide the draft TOR for the environment and social experts of any Project Management Consultant required by DGPC.

## **9 ESIA Documents and ESIA Disclosure Process**

The Consultant will prepare an ESIA for the Khomachhu HPP that meets GoB, World Bank, IFC and ADB requirements. Appendix A provides an illustrative Table of Contents for the ESIA, which also reflects the Bhutan Department of the Environment requirements. The Consultant will prepare the following versions of the ESIA document including all management plans:

- i) Preliminary Draft ESIA and management plans – for internal review by the DGPC and funding body
- ii) Draft ESIA and management plans – addressing the comments from the DGPC and funding body. This document will be disclosed to the stakeholders and a disclosure meeting held with the Project-affected communities.
- iii) Preliminary Final ESIA and management plans – addressing any comments received during the Draft ESIA disclosure period, for internal review by the DGPC and funding body.
- iv) Final ESIA and management plans – addressing any final comments from the DGPC and funding body

The ESMP, CIA, various stakeholder consultation materials, and the ESIA disclosure materials, among other items, should be included as an appendix to the ESIA.

The Consultant shall plan and facilitate in-person disclosure meetings with the project affected communities. These disclosure meetings should be conducted in Dzongkha and have handouts describing the project, key project impacts, and proposed mitigation measures in simple layman's language.

*Deliverables – a preliminary draft, draft, preliminary final, and final ESIA, including any appendices.*

## **10 Key Deliverables**

The Consultant shall submit the identified deliverables for review, comment, and approval by the DGPC and funding body (if needed). These documents will be prepared in English, unless otherwise noted below. The Consultant shall provide electronic copies for all draft and final documents. The Consultant shall provide the final approved documents listed below in both pdf and native (e.g., Word, Excel, PPT) formats, as well as one hard copy for the DGPC.

- i) Stakeholder Engagement Plan – draft and final versions in English with the Executive Summary translated into Dzongkha;

- ii) Community and Worker Grievance Mechanism for receipt of environmental and social grievances – draft and final versions in English and Dzongkha;
- iii) Environmental and Social Impact Assessment, including the ESMP and CIA – preliminary draft, draft, preliminary final, and final versions in English with the Executive Summary of the Draft and Final translated into Dzongkha;
- iv) Resettlement Plan (including livelihood restoration) – draft and final versions in English and Dzongkha, this should include among others, a census of all affected households, their socio-economic survey and asset survey of affected private land and other non-land assets and livelihoods;
- v) Meaningful consultations with PAPs, Communication and Public Disclosure documents and presentation materials – draft and final in English, with the Final translated into Dzongkha;
- vi) Gender Assessment and Action Plan – draft and final version in English; and
- vii) Climate and Disaster Risk Assessment.

## **11 Environmental Clearance of the Project**

Environmental Clearance of the Project shall be pursued by DGPC. However, the Consultant shall update and incorporate into the report if there are comments from the stakeholders including Department of Environment & Climate Change (DECC). The Consultant should have adequately consulted DECC and other relevant stakeholders for comments and recommendations before finalizing the report.

## **12 Conclusions and Recommendations**

Based on the findings of the ESIA study, conclusions should be drawn and recommendations should be made regarding project implementation.

## **13 Checklist for No Objection Certificate**

In order to obtain an Environmental Clearance for the project, NOCs must be obtained from all relevant parties. A checklist of agencies from whom NOCs may be required should be presented.

## **14 Support from DGPC**

DGPC will provide the Consultant with support in the form of:

- Providing necessary documentation such as background information, relevant data, engineering design reports, laboratory tests where applicable and other design documents related to the Project.
- Facilitating coordination between the ESIA Consultant and other ongoing consultancies such as technical consultants, including during site visits and meetings.
- Assisting the consultant in arrangements for meetings and field visits including obtaining permission and authorization necessary for the implementation of the consultancy.

## **Status of Current Works being carried out by DGPC**

### **1. Technical DPR Preparation**

The Pre-Feasibility Study (PFS) of the Khomachhu Hydropower Project was conducted by Norplan in June 2011 under the supervision of the Department of Energy, Ministry of Energy and Natural Resources.

DGPC has reviewed the Pre-Feasibility Study (PFS) conducted in 2011 and proceeded with a preliminary assessment and optimization of the project layout based on the completed detailed topographical surveys and mapping of the project area. Subsequently, on the optimised layout, DGPC has initiated geotechnical investigations to support the updated design.

The status of ongoing geological and geotechnical investigations is as below:

<b>Particulars</b>	<b>Status</b>
1. Exploratory core drilling – Package I (dam site)	- Total drilling length-710m (total 13 No. DH). - Completed drilling length – 145m/710m (DH No. 11 completed). - Ongoing-DH No. 13 and 4.
2. Exploratory core drilling – Package II (powerhouse)	- Total drilling length-700m (total 6 No. DH) - Completed drilling length -200m/700m (DH No. 14, 15, 16 & 17 completed) - Ongoing-DH No. 18 and 19
3. Exploratory Drift at dam site	- Right Bank drift (40m including cross cut): 21.21m - Left Bank drift (40m including cross cut): 23.94m
4. Geophysical Investigation	- Completed on April 18, 2025
5. Lineament Mapping	- Completed on March 14, 2025
6. Geological mapping	- Completed on 31 <sup>st</sup> Dec, 2025
7. Construction material assessment	- In tender stage (award of work in progress).

The details of drill hole are illustrated in the map below:



While DGPC undertakes the above investigation, the Consultant will verify all the field data, lab test results, assess the reliability of the data, and validate the findings for further assessment to meet the design input requirements for the project.

## 2. Environment and Social Impact Assessment

Under ESIA study the following are the status of field works:

ESIA Components	Status
1. Water Quality and Aquatic Ecology Assessment	<ul style="list-style-type: none"><li>- Completed for three seasons by Sherubtse College</li><li>- The reports are available for verification and for preparation of assessment</li></ul>
2. Socio-economic Survey	<ul style="list-style-type: none"><li>- Completed on April 2025</li><li>- Socio-economic survey report will be available by end of June 2025 for verification and further assessment.</li></ul>
3. Terrestrial Biodiversity Assessment	<ul style="list-style-type: none"><li>- The data collection for first season will be completed by October 2025 and data will be available for verification and further assessment.</li><li>- The remaining season data will be under the scope of consultant</li></ul>
4. Noise level and Air Quality Survey	<ul style="list-style-type: none"><li>- The data collection for first season will be completed by October 2025 and data will be available for verification and further assessment.</li><li>- The remaining season data will be under the scope of consultant</li></ul>
5. E-Flow Assessment	<ul style="list-style-type: none"><li>- The E-flow assessment is kept under the scope of consultancy.</li></ul>
6. Cadastral Data	<ul style="list-style-type: none"><li>- The cadastral data within 3 km AoI has been obtained from National Land Commission Secretariat</li></ul>

*Note:*

- 1. The environmental baseline data is required for four seasons. DGPC has collected 3 season data for water quality and aquatic ecology assessment and will collect 1 season data for Terrestrial Biodiversity Assessment & Noise level and air quality data. The consultant should collect the data for the remaining seasons.*
- 2. The remaining activities as per Terms of Reference shall be under the scope of the consultant.*