



CONSULTANCY SERVICES
FOR
DESIGN AND ENGINEERING
OF
KHORLOCHHU HYDROPOWER PROJECT

Ref. No: 9831
October 19, 2024

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SECTION I – LETTER OF INVITATION





LETTER OF INVITATION
INTERNATIONAL COMPETITIVE BIDDING

Tender: Consultancy Services for Design and Engineering of Khorlochhu Hydropower Project
RFP No: KHPL/P&C/Design Conlt/2024/9831
Date: October 19, 2024

Khorlochhu Hydro Power Limited (KHPL) is pleased to invite proposals from qualified consulting firms for providing consultancy services for “**Design and Engineering of Khorlochhu Hydropower Project**”. The detailed scope of services is outlined in the Terms of Reference, available in Section VII of the Request for Proposals (RFP) document.

Interested Bidders are requested to submit their proposals, which must include all required documents and information as specified in the Bid Data Sheet. Proposals should be submitted no later than November 21, 2024, by 15:00 hours BST, and will be opened on the same day at 15:30 hours BST.

The RFP document includes 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

The selection process will follow the Quality and Cost-Based Selection (QCBS) procedure, as detailed in the RFP.

Address for submission of Proposals:

Chief (Contracts)
Procurement and Contracts Section
Khorlochhu Hydro Power Limited
Post Box No. 46001
Trashiyangtse, Bhutan
Email: chief.pnc@khepbhutan.com



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. The Client 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.

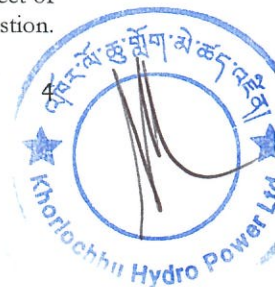
ITC.2.3. The Client will provide at no cost to the Consultant the inputs and facilities specified in the BDS as per requirement, assist the Consultant on best effort basis in obtaining licenses and permits needed to carry out the Services, and make available relevant project data and reports.

ITC.2.4. Consultants shall bear all costs with the preparation and submission of their proposals and contract negotiation. Client 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 Client.

ITC. 3. Conflict of Interest

ITC.3.1. The Client requires that Consultants provide professional, objective and impartial advice, and at all times hold the Client'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 the Client 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 the Client 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.



- 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 Client 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 Client 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 the Client's address indicated in the BDS. The Client 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 the Client 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 the Client 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. The Client shall in no way be 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, the Client 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 the Client in case any of the conditions listed in ITC.11.6 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 the Client as non-responsive.

ITC.11.4. No interest shall be paid by the Client 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 Client, 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 the Client.
- 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 the Client (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 the Client 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. Taxes

ITC.15.1. 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 the Client under the Contract. The Client 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.15.2. 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 the Client and Consultant/assignee of Foreign Consultant (if applicable).

ITC. 16. Sealing and Submission of Proposal

ITC.16.1. 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.16.2. 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.16.3. 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.16.4. 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.16.5. 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.16.6. The Client 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.16.7. 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.16.8. All inner and outer envelopes shall be sealed with adhesive or other sealant which will prevent re-opening.

ITC.16.9. 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 the Client 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. 17. Withdrawal and Substitution of Proposals

ITC.17.1. A Consultant may withdraw or substitute its Proposal after it has been submitted by sending a written notice in accordance with ITC.16, duly signed by an authorized representative, and shall include a copy of the authorization (the power of attorney) in accordance with ITC.16.2. Any substitution of a Proposal must accompany the respective written substitution notice. All notices must be:

a) submitted in accordance with ITC.16 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 the Client prior to the deadline prescribed for submission of Proposals, in accordance with ITC.16.9.

ITC.17.2. Proposals requested to be withdrawn in accordance with ITC.17.1 shall be returned unopened to the Consultants.

ITC.17.3. 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. 18. Opening of Proposals

ITC.18.1. 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.18.2. The Client 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. 19. Evaluation to be Confidential

ITC.19.1. From the time the Proposals are opened to the time the Contract is awarded, the Consultant shall not contact the Client on any matter related to its Technical and/or Financial Proposal. Any effort by any Consultant to influence the Client in the examination, evaluation, ranking of Proposals, and recommendation for Award of Contract may result in the rejection of the Consultant's Proposal.

ITC.19.2. 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.19.3. The evaluation proceedings shall be kept confidential at all times until the award of Contract is announced.

ITC.19.4. 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 the Client.

ITC. 20. Evaluation of Technical Proposals

ITC.20.1. 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.20.2. 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. 21. Public Opening and Evaluation of Financial Proposals
(Applicable only for QCBS, FBS, and LCS)

ITC.21.1. After the technical evaluation is completed, the Client 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. The Client 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. The Client shall prepare a record of the opening of the Financial Proposals, which shall include the information disclosed to those present in accordance with ITC.21.2 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**, the Client 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**, the Client 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 the Client 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 Client 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. The Client 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 the Client in order to ensure satisfactory implementation of the assignment. The Client shall prepare minutes of the negotiations, which shall be signed by the Client 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 the Client 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, the Client and Consultant will initial the agreed Contract. If negotiations fail, the Client 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, the Client shall not reopen the earlier negotiations.

ITC. 23. Availability of Professional Staff/Experts

ITC.23.1. Before contract negotiations, the Client will require assurances that the Professional staff will actually be available. The Client 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. Client's Right to Accept Any Proposal and to Reject Any or All Proposals

ITC.24.1. The Client 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. The Client 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. The Client 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 the Client 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,
- The Client 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;
 - 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;
 - 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 the Client before the expiry of the deadline indicated in the letter of acceptance;
 - 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 ITC.11.6 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 Client**
- ITC.26.1. On receipt of the Client's Notification of Award referred to in ITC.25.1, an unsuccessful bidder has three (3) working days to make a written request to the Client for a debriefing. The Client 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, the Client shall provide a debriefing within five (5) working days.
- ITC.26.3. The Client shall discuss only such Bid and not the bids of other competitors. The debriefing shall not include:
- point-by-point comparisons with another Bid; and
 - 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 data for the Consultancy Services to be procured shall amend and/or supplement the clauses in the Instructions to Consultants (ITC). Whenever there is a conflict, the provisions herein shall prevail over those in the ITC.

ITC Clause Reference	Data
ITC.2.1	Method of selection: Quality and Cost Based Selection (QCBS)
ITC.2.1	Financial Proposal in a separate envelope to be submitted with Technical Proposal: Yes The name of the assignment is: Consultancy Services for Design and Engineering of Khorlochhu Hydropower Project Time for completion: 59 months from the date of Contract signing
ITC.2.3	The Client will provide the following inputs and facilities: As specified in the ToR
ITC.7.1	Proposal must remain valid till: January 20, 2025
ITC.8.1	Eligibility of sub-consultant: Applicable
ITC.10.1	Clarifications may be requested not later than: November 14, 2024 Clarifications on Bidding Documents may be obtained from: Chief (Contracts) Procurement and Contracts Section Khorlochhu Hydro Power Limited Post Box No. 46001 Trashiyangtse, Bhutan Email: chief.pnc@khepbhutan.com All clarifications shall be in writing and submitted in electronic format (PDF) and sent to the above email.
ITC.10.2	Pre-proposal Meeting: Only if required
ITC.11.1 and ITC.11.2 (d)	Proposal Security shall be: BTN 50 million (or equivalent USD at the exchange rate of 1 USD = BTN 84) 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 The Proposal Security shall be valid till: February 19, 2025
ITC.12.3 (a)	Shortlisted Consultants who are not submitting their own proposal may associate with other shortlisted Consultants: Not Applicable
ITC.12.3 (b)	The estimated number of professional staff-months required for the assignment is: Refer Form FIN-4: Breakdown of Remuneration
ITC 13.2 (a)	JV/Consortium shall be allowed
ITC.13.2 (g)	Training is a specific component of this assignment: Not Applicable



ITC Clause Reference	Data
ITC.14.1	Type of Contract: Lump-sum Contract
ITC.14.2	Financial Proposals i) The consultant may express the price of their services in USD/INR currencies ii) The Consultants shall state the portion of their price representing local costs in Bhutanese Ngultrum
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 3% of the Contract Price for International firms and 2 % for National firms.
ITC.16.3 & ITC.16.9	The Consultant must submit the original and ONE copy of the Technical Proposal (in case of hard copy), and the original of the Financial Proposal. Proposals to be addressed to and submitted to: Chief (Contracts) Procurement and Contracts Section Khorlochhu Hydro Power Limited Post Box No. 46001 Trashiyangtse, Bhutan Email: chief.pnc@khepbhutan.com Date & Time (Bhutan Time) up to which Proposals will be received: Date: November 21, 2024 Time: 15:00 Hrs
ITC. 18	The Proposal shall be opened on: Date: November 21, 2024 Time (BST): 15:30Hrs For electronic submission: The password for the Technical Proposal PDF file will be submitted by the Consultant to Client 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 Client at the time of opening of the technical proposals. After the technical evaluation is completed, the Client 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 the Client.
ITC.20.1	Interested Consulting firms shall provide information demonstrating that they have the required qualifications and relevant experience to perform the services. While the number and expertise of experts from consulting firm to be deployed are listed in the table below, the Design Consultant shall have the full range of experts required to provide completeness of services for the successful implementation of the project. The duration for experts, either home or filed, has not been stipulated since this is a lump sum contract. The Bidder shall make its own estimate of the level of efforts required to complete this contract. The supporting staff and any other experts required for



ITC Clause Reference	Data																				
	<p>completion of this contract shall be arranged by the Consultant (successful Bidder) without additional cost to the Client.</p> <p>The evaluation of consulting firms shall be based on the criteria indicated below:</p> <table border="1"> <thead> <tr> <th>Main Criteria</th> <th>Sub-Criteria</th> <th>Points</th> </tr> </thead> <tbody> <tr> <td rowspan="4">1. Experience in Design and Engineering for the Construction of similar size Projects (20 points)</td> <td>a) Consulting Firm's General Experience</td> <td>3</td> </tr> <tr> <td>b) Having successfully completed design and engineering for construction of similar size projects (outside the Consulting firm's home country and in at least two continents). Different projects may be used to meet each of the criterion as under: <ul style="list-style-type: none"> 1) Projects with an installed capacity of not less than 450 MW. 2) Design of Gravity dams with heights over 50 m. 3) Design of underground Desilting Chamber, Head Race Tunnel and underground Powerhouse </td> <td>12</td> </tr> <tr> <td>c) Experience in Himalayan Geology/Region</td> <td>5</td> </tr> <tr> <td>2. Qualification and Competence of Key Professional Staff Proposed (70 points) Refer ToR for detailed qualification requirements for experts.</td> <td> <ul style="list-style-type: none"> 1) Hydropower Expert 2) Engineering Geology Expert 3) Hydraulic Expert 4) Dam Expert 5) Civil and Structural Expert 6) Underground Structural Expert 7) Electro-mechanical Expert 8) Hydro-mechanical Expert </td> <td> <ul style="list-style-type: none"> 10 10 10 8 9 8 8 7 </td> </tr> <tr> <td rowspan="3">3. Adequacy of Proposal (10 points)</td> <td>a) Technical approach and methodology including latest technology</td> <td>5</td> </tr> <tr> <td>b) Organization and staffing</td> <td>2</td> </tr> <tr> <td>c) Work Plan</td> <td>2</td> </tr> </tbody> </table> <p>Note:</p> <ol style="list-style-type: none"> 1. Consulting firms shall provide information demonstrating that they have the required qualifications and relevant experience to perform the Services. Documentary evidences of having successfully completed design and engineering have to be provided duly certified by their respective clients. 2. For the Key Experts, the qualifications and competence for each of the expert shall be documented by the Consulting firms. The key experts proposed by the consultant firm should meet the minimum qualification requirements specified for each position in the TOR. If any proposed key expert does not meet the specified minimum qualification requirements, and if the proposing firm still ends up achieving the overall highest combined technical and financial score, then the firm will be required during contract negotiations and prior to Contract signing to replace the unqualified key expert with another key expert who fully meets the minimum qualification requirements for that position as specified in the TOR. CV signed by the key experts must be submitted along with the proposal. 3. The Client will assess whether the proposed methodology is clear, responds to the TORs, work plan is realistic and implementable; overall team composition is balanced and has an appropriate skills mix; and the work plan proposes adequate inputs of Key Experts <p>The points obtained from above evaluation shall be the Technical Score (St) for the Consulting firms. The minimum Technical Score (St) required to pass for Financial Proposal Opening is 80 points.</p>	Main Criteria	Sub-Criteria	Points	1. Experience in Design and Engineering for the Construction of similar size Projects (20 points)	a) Consulting Firm's General Experience	3	b) Having successfully completed design and engineering for construction of similar size projects (outside the Consulting firm's home country and in at least two continents). Different projects may be used to meet each of the criterion as under: <ul style="list-style-type: none"> 1) Projects with an installed capacity of not less than 450 MW. 2) Design of Gravity dams with heights over 50 m. 3) Design of underground Desilting Chamber, Head Race Tunnel and underground Powerhouse 	12	c) Experience in Himalayan Geology/Region	5	2. Qualification and Competence of Key Professional Staff Proposed (70 points) Refer ToR for detailed qualification requirements for experts.	<ul style="list-style-type: none"> 1) Hydropower Expert 2) Engineering Geology Expert 3) Hydraulic Expert 4) Dam Expert 5) Civil and Structural Expert 6) Underground Structural Expert 7) Electro-mechanical Expert 8) Hydro-mechanical Expert 	<ul style="list-style-type: none"> 10 10 10 8 9 8 8 7 	3. Adequacy of Proposal (10 points)	a) Technical approach and methodology including latest technology	5	b) Organization and staffing	2	c) Work Plan	2
Main Criteria	Sub-Criteria	Points																			
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	b) Organization and staffing	2																			
	c) Work Plan	2																			



ITC Clause Reference	Data
ITC.21.2	<p>Following the completion of the evaluation of the Technical Proposals, the Client 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 Chief (Contracts), Procurement and Contracts Section, E-mail: chief.pnc@khepbhutan.com 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). The official source of the selling exchange rates is: Rates published by the Royal Monetary Authority (RMA), Bhutan.</p> <p>The date of exchange rates is: Date of opening of Technical Proposals.</p>
ITC.21.5	<p>The lowest evaluated Financial Proposal (Fm) is given the maximum financial score (Sf) of 100.</p> <p>The formula for determining the financial scores (Sf) of all other Proposals is as following:</p> $Sf = 100 \times Fm / F$ <p>Where: "SP" 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: T = 80%, and P = 20%</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> $S = St \times T\% + Sf \times P\%$
ITC.21.7	<p>Preferential treatment for Domestic Bidder: Not Applicable</p>
ITC.22.1	<p>Expected date and address for contract negotiations: Mutually agreed date and time</p>
ITC.25.4	<p>Expected date for commencement of consulting services: Date of signing the Contract Agreement</p>



SECTION IV – PROPOSAL FORMS



A - TECHNICAL PROPOSAL FORMS

FORM TECH-1: Technical Proposal Submission

[Location, Date]

To: [Name and address of the Client]

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 ITC.7.1, 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 ITC.25.4 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 the Client

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 the Client 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 the Client), 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 Client employee, the certificate as required under ITC.3.4 should be given for such employee and attached to this format.

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



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>11. Detailed Tasks Assigned [List all tasks to be performed under this assignment]</p>	<p>12. Work Undertaken that Best Illustrates Capability to Handle the Tasks Assigned [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>
--	---

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

SN	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
Foreign																	
1	[Home]																
	[Field]																
2																	
N																	
												Subtotal					
Local (No local staff - Not applicable for this tender)																	
1	[Home]																
	[Field]																
2																	
N																	
												Subtotal					
												Total					

* Staffing schedule for Professional Staff should be indicated individually as listed in the ToR; Support Staff or any other professional staff required for this contract shall not be shown in this staffing schedule.

** 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 ¹	Months ²													
		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 Client 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 Client and Consultant to submit the same after it is executed by the authorised signatory of the Consultant)

[Integrity Pact Statement pre-signed by the Client 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**¹ and **contract administration**², 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.

¹ 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.

² 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) _____

EM  

BIDDER/REP

Affix Legal Stamp

 TIVE



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

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

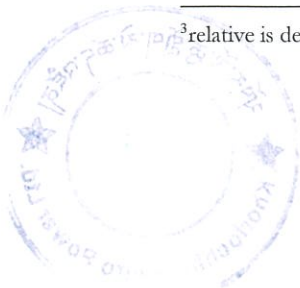
I*[insert the name and designation of the signatory]*..... the duly authorized representative of*[insert name of the Bidder]*, submitting a proposal in respect of invitation for proposals reference number (-----), hereby confirm:

- that I/We do not have a business relationship with a member of the Client'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 relative³ of the Client employee
- *(insert if applicable)*that I/ We confirm that we have nominated *(insert name)*former employee of the Client 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

³relative 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 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 Client 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
[Client'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 the Client.
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 Client]

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 the Client 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 Costs

Activities	Total Amount
Consultancy Services for Design and Engineering of Khorlochhu Hydropower Projects	

**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 Client 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	Cost Component	Amount (USD/INR)
1	Remuneration	
a)	Home	
b)	Field	
2	Reimbursable Expenses	
a)	Long Term Stay	
b)	Short Term Visit	
	Total	

*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	Man-month Rate	Man-Month Required	[Indicate Foreign Currency]		[Indicate Local Currency]
Foreign Staff						
		{Home}				
		{Fiech}				
Local Staff (- to be given only in local currency						
		{Home}				
		{Fiech}				
			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	Man-Months Required	Man-Month Rate	Amount (USD/INR)
Foreign Staff					
	Hydropower Expert (Team Leader)	[Home]	NA	NA	
		[Field]	NA	NA	
	Engineering Geology Expert	[Home]	NA	NA	
		[Field]	NA	NA	
	Hydraulic Expert	[Home]	NA	NA	
		[Field]	NA	NA	
	Dam Expert	[Home]	NA	NA	
		[Field]	NA	NA	
	Civil and Structural Expert	[Home]	NA	NA	
		[Field]	NA	NA	
	Underground Structural Expert	[Home]	NA	NA	
		[Field]	NA	NA	
	Electro-Mechanical Expert	[Home]	NA	NA	
		[Field]	NA	NA	
	Hydro-Mechanical Expert	[Home]	NA	NA	
		[Field]	NA	NA	
Total Costs*					

Note: NA – Not applicable.

Consulting firms will propose a lump sum amount for each category of professional staff as listed above. Supporting staff or any other experts required to complete this contract shall not be accepted.

*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. Information to be provided in this Form shall only be used to establish payments to the Consultant for possible additional services requested by the Client --- APPLICABLE

Name	Position	Man-month Rate
Foreign Staff		
		[Home]
		[Field]
Local Staff (not applicable)		
		[Home]
		[Field]



This Form FIN-1 shall only be used when the Lump-Sum Form of Contract has been included in the RFP – APPLICABLE

No	Description	Unit	Quantity	Unit Cost	Amount (USD/INR)
1	Long term stay at Project site				
1.1	Establishment cost	Monthly	59		
1.2	Transportation within Bhutan	Monthly	59		
2	Short term visit to Project site by experts				
2.1	Per diem charges*	Day	1		
2.2	Round trip ticket for Experts*	Trips	1		
Total Costs					

** Per diem and round trip tickets for short term visits shall be paid on actual number of trip requested by the client.*



SECTION V – TERMS OF REFERENCE



TERMS OF REFERENCE
FOR
DESIGN CONSULTANT
FOR
KHORLOCHHU HYDROPOWER PROJECT



1 INTRODUCTION

1.1 Background

The Detailed Project Report (DPR) for the Khorlochhu (erstwhile called Kholongchhu) Hydropower Project was prepared in June 2011 by SJVN Limited, a Public Sector Undertaking of the Government of India. Final DPR was submitted to the Government of India and the Royal Government of Bhutan on June 30, 2011 and approved by in 2013.

Pursuant to the decisions of the two governments to take up the implementation of four projects under the joint venture model, a Joint Venture (JV) company was formed and registered as the “Kholongchhu Hydro Energy Limited” in June 2015 under the Companies Act 2000 of the Kingdom of Bhutan for execution of the Khorlochhu project (the company is now renamed as Khorlochhu Hydro Power Limited (KHPL)). This JV company was a joint venture between the Druk Green Power Corporation Limited (DGPC), the generating utility company that operates and maintains hydropower assets in Bhutan, and SJVN Limited with 50:50 shareholding. However, the two shareholders through the interventions of two governments agreed to close and dissolve the joint venture agreement. DGPC ultimately bought the 50% shareholding of SJVN Limited in January 2023. KHPL is now fully owned by DGPC.

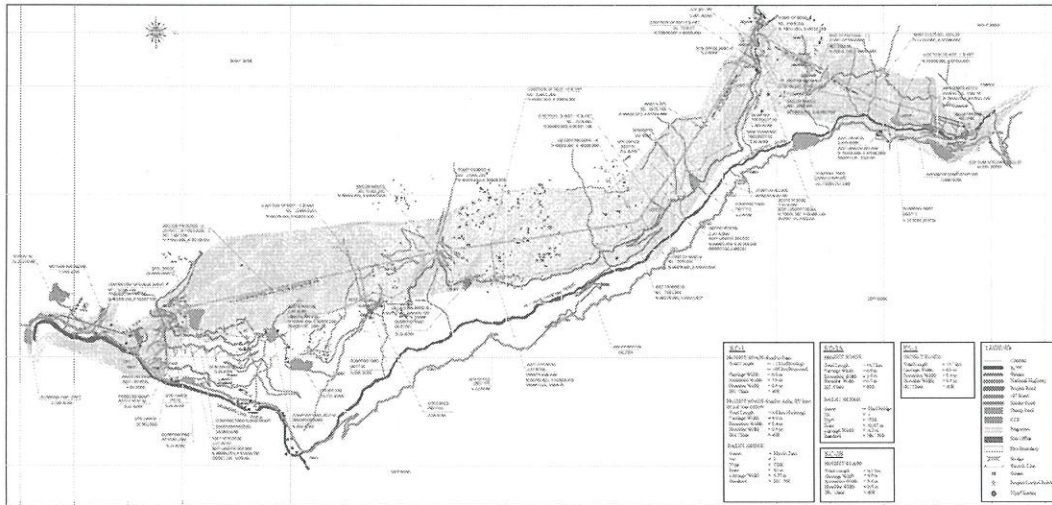
DGPC is taking forward the project through a strategic partnership with established and reputable private entity in India. While WAPCOS India Limited was recruited as the design consultant during the time when the JV company was in force, KHPL (hereafter referred to as the “Client” for the purpose of this consultancy service) wishes to terminate the consultancy agreement with WAPCOS and intends to recruit a reputed international consulting firm (hereafter referred to as the “Design Consultant”) to provide design and engineering services for the construction of the project. The Design Consultant will review the design and engineering works already completed by WAPCOS and continue from thereon. The details of works done by WAPCOS is attached at Annexure – I.

1.2 Project Description

Khorlochhu Hydropower Project is a run-of-the-river scheme project located in the lower course of Kholongchhu river just before its confluence with Drangmechu in Trashiyangtse district of Bhutan. It envisages construction of 95 m high concrete gravity dam above the deepest foundation level for diverting the Kholongchhu into the water conductor system. Two D-shaped underground Desilting Chambers of 350 m length and 13 m width each are located on the right bank of the river. These chambers will be designed to remove the silt particle size upto 0.2 mm and above. From the Desilting Chambers, 16.3 km long 5.7 m diameter horse-shoe shaped Head Race Tunnel (HRT) conveys the design discharge of 89 m³/s water into 9.5 m diameter 162.8 m high underground Surge Shaft. The 1534.74 m long circular Pressure Shaft has diameter of 3.3 m. At the end of the Pressure Shaft, an underground Powerhouse with four generating units of 150 MW each Pelton Turbine is envisaged. A 1.475 km long 6.5 m diameter tail race tunnel conveys the water back to the river. The project with installed capacity of 600 MW and annual designed energy generation of 2,569GWh is scheduled to be completed in 59 months.

The layout of the project as per DPR-2011 is as provided below:





The project will be implemented through five main contract packages as listed below:

- i) KC 1: Civil Works (Dam Complex + HRT RD 0 to RD 2303)
- ii) KC 2: Civil Works (HRT RD 2303 to 14,091.07) and Chaplangchhu Works
- iii) KC 3: Civil Works (Power House Complex + HRT RD 14,091.07 to RD 15762.80)
- iv) Hydro-Mechanical Works
- v) Electro-Mechanical Works

The detailed scope and boundary limits for each of these contracts shall be specified in the respective tender documents. The Contract Package KC2 had already been awarded and kept on hold while the letter of acceptance for Contract Package KC1 & KC3 had been issued and signing of contract kept on hold. The tender documents for the H&M and E&M contracts are being prepared.

The Salient Features of the project is attached at Annexure – II for reference.

2 DESCRIPTION OF THE ASSIGNMENT

2.1 Objective of the Assignment

The Client, now, intends to recruit a reputed international consulting firm to provide design and engineering services for the construction of the project. The consulting firm shall be recruited through international competitive bidding based on Quality-Cost-Based-Selection method.

3 GENERAL SCOPE OF SERVICES

The services provided by the Design Consultant shall conform to the international best practices and standards. The Design Consultant shall carry out all main activities through a team consisting of engineers and relevant professional expert, as required by the scope of services. The Design Consultant shall provide services through combination of home and field deployments. The Design Consultant shall coordinate with the Client for expeditious and timely delivery of services and ensure site adaptation of designs, as may be required during the implementation of the project.

The requirements of services from the Design Consultant defined in this ToR are not exclusive, exhaustive or limited. The Design Consultant shall be required to provide services not envisaged or specifically mentioned therein, but are otherwise required for completion of the project.

The broad scope of services shall be, but not limited to, the following:



- Review the contract documents of civil works, awarded or to be awarded and assist the Client in reviving the contracts for expeditious commencement of the works;
- Review all design and engineering works already done by WAPCOS India Limited, carryout gap analysis ,scrutinize ,analyse, identify corrections if any, suggest remedial action and take forward for construction;
- Preparation of tender document for yet to be awarded contract packages.
- Review and vetting of Bidding Documents, assist and advise the Client in pre-bid meetings, bid evaluations, technical recommendation and assist in award of main contracts of H&M and E&M);
- Preparation of final contract document based on tender, pre and post bid MOMs with selected Vendors.
- Undertake detailed design and engineering, and prepare all design and engineering notes/memos, and drawings, BOQ required for the construction of the project;
- Review of detail engineering documents/drawings submitted by E&M and H&M package vendors
- Review and recommend any changes or modifications as per site conditions;
- Participate in project coordination/review meetings with Contractors, equipment manufacturers/ suppliers and vendors, as and when required, to resolve the issues.

4 DETAILED SCOPE OF CONSULTANCY SERVICES

The detailed scope of the services shall include all activities listed in the subsequent sections, but not limited to, the following:

4.1 Tendering, Bid Evaluations and Contract Award Services

This scope of work is applicable to only Electro-Mechanical and Hydro-Mechanical contract packages.

The Design Consultant shall:

- assist the Client in finalization of contract packaging philosophy for E&M contract, prepare Bidding Document for Electro-Mechanical and Hydro-Mechanical contract packages. Consultant shall prepare Design basis/Memo for selecting different equipment & system and propose under different packages.
- assist and advise the Client in preparation for the pre-bid meetings, bid evaluations, technical recommendation.
- assist in award of main contracts of H&M and E&M.

4.2 Design, Engineering and Drawing Services

Under this section, the Design Consultant shall carryout following activities:

- Review the overall layout of the project including requirement of any additional investigations and tests.
- Detailed review of project infrastructure such as roads, works, buildings and mitigation of short fall if any.
- Design basis reports, equipment & system sizing calculation, material selection, datasheets of all equipment, piping and systems, sizing calculation of all systems.
- Piping & Instrumentation Diagrams (P&IDs)
- Process Flow diagrams
- Piping layout, isometrics and sectional arrangement drawings
- Single Line Diagrams (SLDs), Schematic Drawings, Cabling & Interconnecting Cable Schedules.
- Instrument location & fixing arrangement, loop diagrams and logic diagrams, panel layout and wiring diagrams, control input and output list, set points, Human Machine interface, details design specifications of SCADA & components etc.
- For all HM equipment's involved in the project, the HM Base line drawings shall be made containing sufficient details required for finalization of civil structures which will interface between HM, EM & Civil works.



- x) Detailed Design Calculations/Structural computations and BOQ shall be carried out for the HM related equipment identified/as required in the project. The important components of works such as Intake Trash racks, Intake service gates & emergency gates, Hoist capacity calculations for all gates and technical specifications for Rope drum hoists and Gantry cranes, for its procurement, Penstock/pressure shaft steel liner including transitions & branches/bifurcation and special appurtenances, 3D stress analysis for branch/bifurcation and HM equipment's for bottom outlet.
- xi) Sizing and capacity calculation of electrical equipment, cables and systems, various shop and site test reports, protection & relay setting, type test report, lighting & earthing calculation and layouts etc.
- xii) Finalization of Inspection Categorization plan, manufacturing quality plans, field quality plans, procedures, Welding schemes, FAT/SAT procedures etc.
- xiii) Carry out basic and detailed design for the Civil components and, review of Design Criteria and Specifications for Electro-mechanical and Hydro-mechanical Works, site technical inspection, if necessary, design interfacing between Civil, H&M and E&M works.
- xiv) During detailed design and engineering, the Design Consultant may propose to modify or change the design of the Civil Works of the Project as described in the "Project Profile" for techno-economic reasons and time effectiveness provided always that the design of the Project shall be in accordance with the International best practice and standards and shall meet Client's requirements for the performance of the Works as warranted under the Contract. Such changes should be brought out in a detailed Design Memo along with cost and time implications on awarded civil contracts to establish the proposal which is to be executed on specific approval of the Client. Such changes shall not entitle the Design Consultant to additional cost, whatsoever, other than the Contract Price.
- xv) Additional technical data and information related to the Project and available with the Client and required for the Works shall be furnished to the Design Consultant without charge and the Client may without obligation give such assistance or obtaining of any additional data and information as may reasonably requested by the Design Consultant.
- xvi) The Design Consultant shall be deemed to have scrutinized the Client's requirements and shall be responsible to comply with the same.
- xvii) Physical hydraulic model tests and studies already awarded to Central Water and Power Research Station (CWPRS), Pune, India. The Design Consultant shall review the works already completed and continue with CWPRS on the balance physical model studies. The details of works are attached at Annexure – I. The consultant shall incorporate the outcome of the study in its engineering design suitably.
- xviii) Design Consultant shall prepare overall plant operation and control concept and review of detailed Control System architecture, control schemes, field instruments, sizing of MIV, gates, valves and related datasheets and drawings.
- xix) Design Consultant shall carry out 3D based design for Civil and HM package, shall share with EM package vendor and ensure integration of the same. Design Consultant shall share all the native files of drawings, document & 3D model to client as and when asked for and at the end of the project.
- xx) Design Consultant scope shall also include review of 3D model to be developed by EM Package vendor, integration of various models & review of the 3D models from interface, project constructability and maintainability point of view. Design Consultant shall also provide the integrated 3D models to Client for reviews from time to time.
- xxi) Design Consultant shall participate HAZID and HAZOP study to be conducted by EM Package Vendor and ensure all the recommendation is seamlessly incorporated in system design.
- xxii) Design Consultant to note that Green Building Design concept will be used for the project.
- xxiii) Design Consultant shall witness performance testing, evaluate test reports, and provide independent assessment as requested by Client.
- xxiv) Interface coordination between various packages: Interface coordination is an important aspect of engineering and Design Consultant shall be responsible for the same. While reviewing the scope due cognizance should be given to terminal points and completeness of the project. Design Consultant will address all the disciplines with the sole objective of ensuring that there is no gap or overlap in the services / facilities including design continuity.



- xxv) The above are only broad classification of the detail design & engineering documents expected to be prepared by Design Consultant and review of drawings & documents as submitted by respective package vendor. Detailed Master Document List (MDL) shall be finalised with the contractors before finalization the respective package contracts in consultation with Client. Design Consultant scope shall include review of all the drawings and documents submitted as per those MDLs.
- xxvi) Design Consultant will be responsible for time bound review of the documents & drawings submitted by contractors and shall forward its review comments / approval within 7 calendar days of receipt of the documents & drawing. Design Consultant shall be responsible for maintaining the quality of review to limit the no. of revisions of the drawings and documents. Design Consultant shall also be responsible for maintaining the records of any change in approved design during implementation at site and shall certify and resubmit in 'as-built drawings.
- xxvii) Release of Design Consultant scope of detailed design and engineering documents & drawings as per agreed schedule and Review & turnaround of Contractors' design and engineering documents within 7 calendar days after receipt.
- xxviii) Design Consultant shall be responsible for identifying the gap, inaccuracy and in-adequacy of engineering and design done by package contractors and shall provide appropriate solution / inputs for its correction. Design Consultant shall also be responsible to identify any change in design and or scope of the package contractors during execution of the project and shall review and forward its recommendation / views on the change order arising out of it with proper justification. Design Consultant shall be responsible to timely analyze and resolve the technical & quality related issues (if any) arise during execution of the project.
- xxix) Although approved sub-vendor list is supposed to be incorporated in package tender specifications, contractors may include additional vendor for bought out items during execution of the contract. Design Consultant should review such submission and advise the Client for acceptance or rejection. If required, Consultant should suggest alternate vendor.
- xxx) Design Consultant shall ensure continuity of its identified & approved personnel for the entire duration of the execution of contract. In case of any unavoidable change of any deployed person, Design Consultant shall inform the Client about the change well in advance and shall timely replenish the same with Client's consent without affecting the quality, quantity or scope of work progress.
- xxxi) Client will use a web server-based document management system. All the project drawings & documents shall be submitted & transmitted through this system. Design Consultant and package contractors shall follow the Client's system for submission of all project documents. Details of document management system & procedure shall be shared after award of contract.
- xxxii) Design Consultant shall obtain structural stability certificate of all the civil and HM work and overall scope of work from designated competent authority.
- xxxiii) Power Transmission (Evacuation System): Transmission System design would be prepared in line with the approved evacuation scheme for the project. Latest Transmission Power evacuation scheme will be shared by client. Design Consultant will include
- Review of drawings and document covered under transmission line but not limited as 400 KV insulator, Transmission line hardware fittings, conductors, OPGW and its accessories, tower steel, earthing system, bird fault preventive system, type tests reports, FQP, miscellaneous system etc.
 - Assist Client for Right of Way (ROW).
 - Assessment of the approved scheme for evacuation and studies undertaken.
 - Review and approval of design and drawings submitted by contractor.

Furthermore, the detailed scope under Design, Engineering and Drawing Services shall include, but not limited to, the following:

4.2.1 Preparatory Work

The information and data for preparatory works shall be provided by the Client.

- Review available hydrological data in order to verify design floods, including the requirements during the construction period.
- Review available discharge data, head availability and power potential studies.
- Review the seismic design parameters provided by the Client.



- iv) Review available geological and geotechnical data as a basis for a programme for additional investigations to be carried out, if any, deemed necessary by the Design Consultant.
- v) Review available topographical information as a basis for a programme for additional detailed surveying to be carried out, if any, deemed necessary by the Design Consultant.
- vi) Review available data with respect to sediment load in the river for establishment of design criteria.
- vii) Review and design technical parameters for Electrical-Mechanical and Hydro-Mechanical Works.
- viii) Prepare and submit reports on the above for approval by the Client.

4.2.2 Additional Investigations and Tests

- i) Evaluate additional geological and geotechnical investigations, as may be required, for establishment of the conditions governing the design of the project.
- ii) Review of physical hydraulic model tests and accordingly perform the design and engineering services.
- iii) Conduct load flow study for evacuation of power
- iv) Prepare and submit reports for review/approval of the Client.

4.2.3 Basic and Detailed Design

- i) Preparation of basic design will be part of the detailed planning, and will include general arrangement drawings for the Electro-Mechanical and Hydro-Mechanical works.
- ii) Numerical hydraulic modelling (2D) of head works of the projects shall be carried out using appropriate software, to be agreed with the Client, to optimize the design.
- iii) Based on the finalized project layout and design of the project, the transient analysis of the project shall be carried out using appropriate software, to be agreed with the Client. Also support E&M requirements which is related to transient analysis.
- iv) Preparation of design criteria and Specifications of all Civil works and submission to the Client for review/approval.
- v) Preparation of detailed design for the Civil Works including detailed drawings (Good for Construction) required for the execution of the Project as a whole. 3D dynamic FEM analysis using seismic acceleration time histories shall be carried out including thermal analysis for dam concreting. The detailed dynamic analysis and design of the powerhouse machine foundation and associated structures shall be carried out using appropriate software. Dam Break analysis shall be carried out till the Indian Border using appropriate software.
- vi) Preparation of all instrumentation planning and design including specifications required during the construction and operation phase of the project.
- vii) Follow-up of the Civil Works to verify the suitability of the design during construction, and to make or initiate such modifications as may be required.
- viii) Preparation of Manuals required for the operation and maintenance of the Civil Works, including a Manual for the initial filling-up of the Reservoir and Water Conductor System as part of the commissioning.
- ix) Construction-level Drawings and such additional design reports as may be required including the Manuals as above, will be submitted to the Client.

4.2.4 As-Built Drawings

- i) Preparation of as-built drawings for Civil to be submitted to the Client.

4.3 Additional Work

If in the opinion of Client, it is necessary to carry out any additional works not foreseen in the scope of this Consultancy Services, the Design Consultant, with written orders of Client, shall carry out such additional works and costs of the same shall be paid by the Client on production of documentary evidence by the Design Consultant as per actual based on the agreed person-day rate under the variation order issued by Client.

5 SCHEDULE



The duration of the implementation of 600 MW Khorlochhu projects is 59 months. The duration of consultancy services for the Design Consultant will be the same as duration for project. However, in the event that the project is delayed for reasons not attributable to the Design Consultant, the Design Consultant shall remain under obligation to extend the duration of consulting services, as may be required, to complete the project.

6 REPORTING BY THE DESIGN CONSULTANT

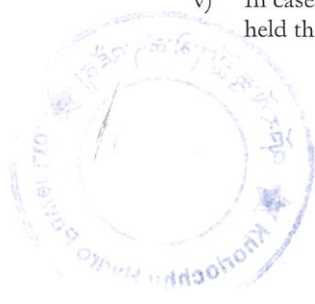
6.1 Deliverables

The Design Consultant shall use latest software-based management tool for overall management and progress reporting with access to Client. The Design Consultant shall submit the following detailed reports in an electronic copy including editable version such as excel design sheets, AutoCAD files, shape files and word documents. Client will use the web-based document management system such as Wrench for document submission and approvals. Consultant shall follow the same. All the reports and subsequent comments/suggestions of the Client shall be documented. The following final reports shall be submitted to the Client:

- i) **Inception Report** summarizing the Design Consultant's state of mobilization, Design Consultant's obligations, methodology for undertaking the assignment, frequency of reporting, site meetings and site record keeping. This Report shall be submitted within one month from date of Letter of Award.
- ii) **Design Reports** consisting of all design criteria/memos including engineering calculations, drawings, analysis, method statement, reports, references, etc. prepared by the Design Consultant during the execution of its duties under this Contract shall be submitted to Client.
- iii) **As-Built** incorporating all the changes during implementation stages shall be prepared and submitted to the Client after incorporating any comments by the Client.
- iv) Other relevant construction monitoring, inspection, tests and commissioning reports as may be required.

6.2 Reporting Procedure

- i) One month after the date of "Letter of Award", the Design Consultant shall submit to the Client a Work Programme showing the details of design and engineering services to be carried out to complete the implementation of the project. This Work Programme shall be aligned to the Master Work Programme of the project to ensure that design and drawings are available minimum 2 (two) months in advance of the start of the construction activity. The Work Programme shall show major activities such as but not limited to design reports, hydraulic model study, drawings etc. The detailed design criteria/memo for the project components shall be submitted to the Client for approval at least 2 (two) months in advance of the start of the construction activity. The drawing and relevant standard for the aforesaid component of Works shall be based on the approved criteria and submitted at least 1 month prior to the start of the construction activity.
- ii) The number of copies of the Reports and other Documents to be submitted to the Client by the Design Consultant is specified as below:
 - a) Design criteria/ design basis/ design memo, Drawings for information/review/approval shall be submitted in soft copies.
 - b) Drawings for the Construction of Civil Works and interfacing components shall be submitted in soft copies.
 - c) O&M manuals and any other documents shall be submitted in set of 2 (two) hard copies along with the soft copy.
 - d) Quarterly reports shall be submitted in soft copy.
- iii) Within one month after the submission of the Work Programme, the Design Consultant shall submit to the Client for information a schedule indicating the methodology for phase-wise submission of design documents and drawings.
- iv) The Design Consultant shall successively submit the design and drawings for review/approval of the Client in accordance with the agreed schedule. The Client shall give approval/comments on designs and drawings within average 15 days of the date of receipt.
- v) In case the Client has any comments on such documents, technical discussions shall, if required, be held thereafter without delay to finalize the Drawings.



- vi) In case approval or comments of the Client have not been communicated within the stipulated 30 days then the Design Consultant shall notify the Client immediately and if the Client does not approve/comment within next 15 days the Design Consultant shall proceed ahead with the Works considering that the Client has reviewed the designs and drawings and has no comments to offer.
- vii) The Design Consultant may make minor alterations to designs during the course of construction as may be necessary or expedient, under prior intimation to the Client. If errors, omissions, ambiguities, inconsistencies inadequacies or other defects are found in the design and drawings submitted by the Design Consultant, these documents and the Works shall be corrected at the Design Consultant's cost notwithstanding any consent or approval thereof by the Client/Engineer.
- viii) In case the Client requests amendment of an approved report/design/redesign or revoke such approval and such request by the Client is as per site requirement for proper completion and functioning of the Works, the Design Consultant shall without any cost to the client, redesign/revise/revoke the same.
- ix) The Design Consultant shall inform the Client about the software to be used for analysis and design for endorsement.
- x) The details of drawings/documents which will be submitted for review/approval or for information but not limited to are as below:

a) Civil Works

The following documents/drawings will be submitted for review/approval of the Client:

1. Design criteria/Design memo.
2. Detailed Specifications
3. General arrangement and layout drawings of each component and its related structures.
4. Review report on Hydraulic Model Studies.
5. Detailed Design Calculations (Hydraulic and civil & Structural).
6. Excavation Drawings.
7. Concrete outline drawings.
8. Reinforcement drawings.
9. Foundation treatment drawings.
10. Lift drawings.
11. Assembly drawings, etc

b) Hydromechanical and Electromechanical Works

The following documents/drawings will be submitted for review/approval of the Client:

1. General arrangement and interface drawings
2. Civil and structural drawings for H&M , liner drawings ,etc

7 MILESTONES

The following Milestones shall be used for the purpose of monitoring the progress of the works by the Design Consultant and shall be linked to the payment schedule:

7.1 Milestone 1

- i) Review of all works completed by the previous design consultant
- ii) Review all inputs required for continuation of design and engineering services
- iii) Review and finalisation of technical specifications and BOQ for the hydro-mechanical package.
- iv) Review and finalisation of draft technical specifications and BoQ for the already prepared packages of Electro-Mechanical package.(e.g. Turbine and GT). Design, prepare, finalise technical specifications and BoQ for remaining packages of electromechanical. (e.g, cables, GIS, control & protection system and governing and excitation system, and Balance of plant for all remaining systems)
- v) Finalization of basic design and layout of the Project.
- vi) Review of the construction drawings related to all adits including portals of diversion tunnel & coffer dams done by previous design consultant and issue the drawings 3 months prior to start of the works at site.
- vii) Excavation and support details for all components of all components coffer dams., main diversion tunnel, Chaplangchhu diversion



viii) Carryout and finalising remaining studies

7.2 Milestone 2

- i) Issue of construction drawings related to:
Excavation and support details of Dam area including intake; desilting chambers Powerhouse Complex, HRT, Surge Shaft and Pressure Shaft. tail race, all access tunnels , pothead yard, desilting chambers
- a) Pressure Shaft liner details.
b) Assist the Client in tender and award of H&M and E&M Contracts

7.3 Milestone 3

Issue of construction drawings related to concrete and reinforcement details of Dam area including intake, Powerhouse complex, HRT, Surge Shaft and Pressure Shaft, tail race, all access tunnels , pothead yard, desilting chambers, etc

7.4 Milestone 4

Issue of construction drawings related to the Dam and Power House incorporating/integrating requirements of H&M and E&M structures.

7.5 Milestone 5

Submission of design memo/report, as-built drawings and completion report.

8 KEY EXPERTS

The Design Consultant shall provide design and engineering services through combination of experts available at its home office and at the project site. While the number and expertise of experts from consulting firm to be deployed are listed below, the Design Consultant shall have the full range of experts required to provide completeness of services for the successful implementation of the project. The duration for experts, either home or field, has not been stipulated since this is a lump sum contract. The Bidder shall make its own estimate of the level of efforts required to complete this contract. The supporting staff and any other experts required for completion of this contract shall be arranged by the Consultant (successful Bidder) without additional cost to the Client.

8.1 Minimum Key Experts

SN	Key Experts	No. of Experts	Engagement at Client Office
1	Hydropower Expert (Team Leader)	1	Either Hydropower Expert or
2	Engineering Geology Expert	1	Geology Expert - 59 months
3	Hydraulic Expert	1	
4	Dam Expert	1	
5	Civil and Structural Expert	1	
6	Underground Structural Expert	1	
7	Electro-Mechanical Expert	1	
8	Hydro-Mechanical Expert	1	
	Total	8	

The Hydropower Expert/Team Leader and Engineering Geology Expert shall be stationed at the project site during the entire period the contract.

The other experts shall visit the project sites as and when required and requested by the Client. The number of experts and discipline including the duration of the site visit will be decided in consultation with the



Client as per site requirements. The first site visit shall be immediately after the award of the consultancy service while the subsequent visits shall be communicated by Client as and when required.

8.2 Qualification and Responsibility of Key Experts

The Key Experts of the consulting firm shall have the qualifications as stipulated hereunder and perform the following activities in collaboration with the Client Design team.

Key Experts	Required Experience	Main Tasks
Senior Hydropower Expert/Project Manager	<ul style="list-style-type: none"> • Minimum of Master's Degree with Bachelor's Degree in Civil/hydropower engineering; • At least 15 years of experience in the design, supervision and monitoring of similar hydropower projects/ contracts; • Minimum of 5 years' experience in project management at senior level in a similar kind of project/ contract; • Have worked as a Team Leader in at least one project of similar size and scope. 	<ul style="list-style-type: none"> • Represent the Design Consultant in all contractual activities and be the point of contact for the Client to communicate; • Coordinate with Client's Project Manager and ensure the provision of all services required to be provided by the Design Consultant on time; • Plan design works with the team and supervise all the Design Consultants' activities and outputs for the overall design works; • Conduct site visits to assess the site conditions and performance in terms of implementation of works as and when required; • Review the Contractors' work methods to ensure that they comply with health and safety requirements, assure a high standard of workmanship, and correspond to the work rates required in the agreed construction programme; • Assist Client in issuing Taking-Over Certificates to the Contractor; • Plan for a numerical hydraulic model test on sediment flushing facilities that will be conducted by the Design Consultant; • Review and guide the Design team of the Client in close collaboration with Project Manager for the detailed design and engineering services; • Prepare and submit the deliverables to the Project Manager as per the ToR.
Engineering Geology Expert	<ul style="list-style-type: none"> • A minimum of Master's Degree in Geology /Engineering geology • Experience of at least 15 years in similar projects with at least 5 years in Himalayan Geology • Strong fundamental knowledge in geotechnical engineering, soil and rock mechanics; 	<ul style="list-style-type: none"> • Review of available data and any requirement for additional investigations; • Review and make recommendations for any subsequent investigations to make the data available for relevant design and engineering; • Review rock mass characterization for all underground facilities such as



Key Experts	Required Experience	Main Tasks
	<ul style="list-style-type: none"> Experience in RMR classification system 	<div style="text-align: center;">diversion tunnel, desilting chambers, HRT, Surge shaft and penstock;</div> <ul style="list-style-type: none"> Conduct site visits to assess the site conditions and performance in terms of implementation of civil works as and when required; Review the portal locations for detailed assessment in view of slope stability and impacts from stream influx. Identify and analyse potential risks of landslide, seepage and other hazards in reservoir, dam safety/monitoring/instrumentation and disaster risk assessment & management plan. Review and advise the Contractor's installation of measuring devices/instruments including descriptive documentation; Monitor and analyse the reading of measuring devices/instruments, establish frequencies of reading and documentation of data; Provide relevant design data and information for detailed design and engineering of the project.
Hydraulic Expert	<ul style="list-style-type: none"> A minimum of Bachelor's Degree in Civil/Hydraulic/Hydropower Engineering; Relevant professional experience in the hydraulic designs of hydropower projects for at least 10 years; Experience in the hydraulic design of at least two hydropower projects. 	<ul style="list-style-type: none"> Provide technical expertise by reviewing the available data and designing the project components in collaboration with other experts; Conduct site visits to assess the site conditions and performance in terms of implementation of civil works as and when required; Provide relevant design data and information to other designers for detailed design and engineering of the project; Provide relevant data and information for Physical Model studies.
Dam Expert	<ul style="list-style-type: none"> A minimum of Bachelor's Degree in Civil/Hydropower/Structural Engineering; Relevant professional experience in the design and construction of Dams and head works of hydropower projects for at least 10 years; 	<ul style="list-style-type: none"> Provide technical expertise by reviewing the available data and designing the project components in collaboration with other experts; Review of measuring devices and investigations required to prepare final design computations and drawings, i.e. all work necessary to establish the detailed input data and design criteria. This will involve advising the Client on laboratory and



Key Experts	Required Experience	Main Tasks
	<ul style="list-style-type: none"> • Experience in the design of Dams and head works of at least two hydropower projects 	<p>field equipment/instrumentations required, and drawing up a detailed programme of field testing/instrumentation and measurement to be carried out during construction;</p> <ul style="list-style-type: none"> • Prepare the dam foundation design for the control of bypass seepage and suggest design measures to minimize the seepage. • Assess the slope stability at the dam abutment. • Prepare the reservoir rim stability, sediment assessment and management plan. • Review the construction material suitability for the dam construction. • Conduct site visits to assess the site conditions and performance in terms of implementation of civil works as and when required; • Provide relevant design data and information to other designers for detailed design and engineering of the project • Provide relevant data and information for Physical Model studies; • Prepare and submit the monitoring program for the construction and operation phases on Dam safety aspects to determine if objectives and activities are appropriate in light of current and predicted project impacts. Recommend revisions and/or additional components as necessary.
Structural Engineering Expert	<ul style="list-style-type: none"> • A minimum of Bachelor's Degree in Civil/Structural Engineering; certified structural engineer • At least 10 years of relevant professional experience in similar projects; • Strong fundamental knowledge in geotechnical engineering, soil, rock mechanics and RCC /steel structures; • Project experience in field supervision, planning, and construction experience related to surface structures for water resource projects. 	<ul style="list-style-type: none"> • Review and check the geotechnical input data and the criteria for the design of project components. This includes the review of all available geotechnical and other reports and conclusions drawn therefrom, and a review of the construction programme from the geotechnical aspect; • Review of measuring devices and investigations required to prepare final design computations and drawings, i.e. all work necessary to establish the detailed input data and design criteria. This will involve advising the Client on laboratory and



Key Experts	Required Experience	Main Tasks
		<p>field equipment/instrumentations required, and drawing up a detailed programme of field testing and measurement to be carried out during construction;</p> <ul style="list-style-type: none"> • Review and prepare the optimized layout of the above structures based on the geological, hydrological and geotechnical studies. • Carry out structural Design and engineering of project components such as machine foundations, powerhouse, etc. in collaboration with other designers; • Conduct site visits to assess the site conditions and performance in terms of implementation of civil works as and when required; • Provide relevant design data and information to other designers for detailed design and engineering of the project; • Prepare and design the installation and monitoring of all instrumentations. Shall review readings of these instruments regularly and recommend remedial measures where required; • Work closely with other designers and discharge his responsibilities
Underground Structural Expert	<ul style="list-style-type: none"> • A minimum of Bachelor's Degree in Civil/Geotechnical /Structural Engineering; • At least 10 years of relevant professional experience in similar projects; • Strong fundamental knowledge in geotechnical engineering, soil and rock mechanics; • Project experience in field supervision, planning, and construction experience related to tunnels, underground structures for water conveyance and water resource projects. 	<ul style="list-style-type: none"> • Review and check the geotechnical input data and the criteria for the design of project components. This includes the review of all available geotechnical and other reports and conclusions drawn therefrom, and a review of the construction programme from the geotechnical aspect; • Review of measuring devices and investigations required to prepare final design computations and drawings, i.e. all work necessary to establish the detailed input data and design criteria. This will involve advising the Client on laboratory and field equipment/instrumentations required, and drawing up a detailed programme of field testing and measurement to be carried out during construction; • Review and prepare the optimized layout of the above structures based

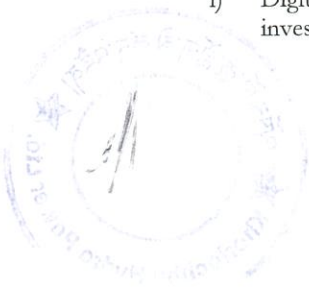


Key Experts	Required Experience	Main Tasks
		<p>designs, drawings or specifications where necessary;</p> <ul style="list-style-type: none"> • Check the design of the electrical components and control equipment with regard to the methods of installation; • Assist the Contractor to develop and coordinate detailed test procedures for both dry and wet commissioning and participate in the supervision of these tests; • Review the detailed requirements and standards to be used in the circuit diagrams to be submitted by the E&M Contractor with their installation and the specifications of the equipment with regard to international and local standards;
Hydro-Mechanical Expert	<ul style="list-style-type: none"> • A minimum of Bachelor's Degree in Mechanical Engineering; • Relevant professional experience in the design and installation, testing and commissioning of Gates, Hoists and steel lining for Pressure Shafts for at least 10 years. 	<ul style="list-style-type: none"> • Review and check the input data and the criteria for the design of project components. This includes the review of all available information and other reports and conclusions drawn therefrom, and a review of the technology from the operational aspect; • Review and preparation of specifications for H&M manufacturers; • Review and prepare the optimized hydro-mechanical system for the project to operate remotely. • Review the detailed Design and engineering of each H&M components designed by the H&M Contractor; • Conduct site visits to assess the site conditions and performance in terms of interfacing of civil and H&M works as and when required; • Provide relevant design data and information to other designers for detailed design and engineering of the project; • Work closely with other designers and discharge his responsibilities.

9 DATA AND FACILITIES TO BE PROVIDED BY THE CLIENT

The Client shall provide the following data and facilities free of charge to the Design Consultant for the duration of the assignment:

- i) Digital copy of the previous Detailed Project Report (DPR), all subsequent studies and investigations after submission of the DPR, the Bhutanese Guidelines for Development of



Hydropower Projects (2018), and all other information and data relevant for the Assignment requested by the Consultant and within the Client's control.

- ii) All design, engineering and constructions drawings completed by previous design consultant.
- iii) All permission and authorization necessary for the implementation of the Assignment, including support for obtaining visas and work permits.
- iv) Office facilities, including access to internet, printer and copy machine, at the Client's office.

10 RESPONSIBILITIES OF THE CONSULTANT

The Consultant shall be responsible and shall include costs for all other facilities required for his staff including air transportation, accommodation, per diem, and costs for visa and work permits for the duration of the assignment.



ANNEXURE - I

DETAILS OF WORKS DONE BY WAPCOS

WAPCOS India Limited was recruited as the design consultant during the time when the JV company was in force. Due to various circumstances, WAPCOS could not continue the design and engineering works as was foreseen in their contract. The works carried by WAPCOS so far is listed as under: The Design Consultant will review the design and engineering works completed by WAPCOS and continue from thereon.

Summary of the works carried out by WAPCOS Limited so far area:

- i) Furnishing of all the inputs needed for award of the three main civil packages and award thereof.
- ii) Award of contracts for hydraulic model studies to CWPRS Pune.
- iii) Finalization of basic design, layout of the project.
- iv) Draft Design Specifications, BoQ, layout, etc. for HM Package (yet to be vetted by competent authority of KHyE).
- v) Draft Bidding Documents for EM-1 and EM-2 Packages (yet to be vetted)
- vi) Issuance of construction drawings related to excavation, support, concreting, reinforcement, grouting, etc. of the major components of main civil works (the sufficiency of the quality and quantity is yet to be ascertained, due to lack of capacity in KHyE).
- vii) Control survey by Survey of India through WAPCOS

In accordance with the ToR to carry out the allied works for KHEL through WAPCOS but outside the scope of payment of consultancy contract at actual costs plus 20% WAPCOS fee, the following studies were planned to be carried out but did not come to fruition pending the halt of the project after the exit of SJVN/in the process towards exit. The preliminary discussions had taken place with these agencies through WAPCOS.

- i) 2D & 3D Linear and Non-linear Dynamic Analysis of and Design of Concrete Gravity Dam by Indian Institute of Technology (IIT), Roorkee.
- ii) Transient Analysis/Hydraulic/Mathematical Model Study of Surge Shaft through Irrigation Research Institute (IRI Roorkee).
- iii) 3D Numerical Model Studies of Underground Caverns through National Institute of Rock Mechanics (NIRM), Bengaluru.
- iv) Slope Stability Analysis of Dam Slope by NIRM, Bengaluru

Status of Hydraulic Model Studies by CWPRS, Pune through WAPCOS Limited.

The hydraulic model studies consist of 8 components viz. that of spillway 2D sectional model, tail race tunnel, power intake, flushing of reservoir, desilting chamber, silt flushing tunnel beyond desilting chamber, reservoir sedimentation and spillway energy dissipator 3D comprehensive model. While the study of desilting chamber has been completed and technical report submitted and that of power intake are in an advance stage with draft report submitted, the rest of the studies are either ongoing or on hold.



List of soft copies of Documents (in pdf format) received from WAPCOS Limited

Date of Issue	No. of Construction Drawings of 600 MW KHEP Main Civil Works			Total	Overlap
	KC-1	KC-2	KC-3		
24.05.2021	3	20		23	2 drawings common between KC-1 and KC-2
31.05.2021	8	20	8	36	2 drawings common among KC-1, KC-2 & KC-3
07.06.2021	20		28	48	
14.06.2021	10		6	16	
23.06.2021	8			8	
02.07.2021	9			9	
06.07.2021		1		1	
29.07.2021		1		1	
11.08.2021		4		4	
30.08.2021			6	6	
10.09.2021		2		2	
12.10.2021			3	3	
15.02.2022		4		4	
26.02.2022		3		3	
13.04.2022		1		1	
06.05.2022		6		6	
30.06.2022	5	4	3	12	3 drawings common among KC-1, KC-2 & KC-3
05.07.2022		6		6	
13.07.2022	1	1	2	4	
28.07.2022		4		4	
01.08.2022	17			17	
21.10.2022			22	22	
25.10.2022	10			10	
05.11.2022	23			23	
04.01.2023	7			7	
11.01.2023		3		3	
19.01.2023	2			2	
26.12.2022	5			5	
29.12.2022	1	2		3	
	129	82	78	289	

Notes: Soft copy in pdf version.



List of construction drawings received from WAPCOS in Contract Package wise: KC-1, KC-2 and KC-3

1. Construction Drawings for KC-1 Contract Package

Date	Quantity (No)	Drawing No.	Description of drawings
24.05.2021	3	HRT-KHEP-SUPPORT SYSTEM-C-01 (SHEET 1 OF 3) HRT-KHEP-SUPPORT SYSTEM-C-01 (SHEET 2 OF 3) HRT-KHEP-SUPPORT SYSTEM-C-01 (SHEET 3 OF 3)	Head Race Tunnel - Typical excavation sections & Rock support details Head Race Tunnel - Typical excavation sections & Rock support details Head Race Tunnel - Typical excavation sections & Rock support details
31.05.2021	8	HRT-LAYOUT PLAN-KHEP-C-01 HRT-L-SECTION-KHEP-C-01 HRT-AD-I-KHEP-C-01 (SHEET 1 of 4) HRT-AD-I-KHEP-C-01 (SHEET 2 of 4) HRT-AD-I-KHEP-C-01 (SHEET 3 of 4) HRT-AD-I-KHEP-C-01 (SHEET 4 of 4) HRT-AD-I-KHEP-C-02 (SHEET 1 of 2) HRT-AD-I-KHEP-C-02 (SHEET 2 of 2)	Head Race Tunnel - Layout Plan Head Race Tunnel - Longitudinal Section Head Race Tunnel - Construction Adit- I - Layout Plan & L-Section Head Race Tunnel - Construction Adit- I - Portal Concrete Outline Details Head Race Tunnel - Construction Adit- I - Portal Excavation & Rock Support Details Head Race Tunnel - Construction Adit- I - Portal Reinforcement Details Head Race Tunnel - Construction Adit- I - Excavation & Rock Support Details Head Race Tunnel - Construction Adit- I - Excavation & Rock Support Details
07.06.2021	20	DM-DC-ADIT-US-KHEP-C-01 (SHEET 1 of 4) DM-DC-ADIT-US-KHEP-C-01 (SHEET 1 of 4) DM-DC-ADIT-US-KHEP-C-01 (SHEET 2 of 4)	Dam Complex-Adit to u/s of Desilting Chamber – Layout Plan & L-Section OPTION 1 Dam Complex-Adit to u/s of Desilting Chamber – Layout Plan & L-Section OPTION 2 Dam Complex-Adit to u/s of Desilting Chamber – Portal Details





Date	Quantity (No)	Drawing No.	Description of drawings
		DM-DC-ADIT-US-KHEP-C-01 (SHEET 3 of 4)	Dam Complex-Adit to u/s of Desilting Chamber – Excavation & Rock Support Details
		DM-DC-ADIT-US-KHEP-C-01 (SHEET 4 of 4)	Dam Complex-Adit to u/s of Desilting Chamber – Portal Reinforcement Details
		DM-DC-ADIT-US-KHEP-C-02 (SHEET 1 of 2)	Dam Complex-Adit to u/s of Desilting Chamber – Excavation & Rock Support Details
		DM-DC-ADIT-US-KHEP-C-02 (SHEET 2 of 2)	Dam Complex-Adit to u/s of Desilting Chamber – Excavation & Rock Support Details
		DM-DC-ADIT-BOTTOM-KHEP-C-01 (SHEET 1 of 4)	Dam Complex-Adit to Bottom of Desilting Chamber - Layout Plan & L-Section OPTION - 1
		DM-DC-ADIT-BOTTOM-KHEP-C-01 (SHEET 1 of 4)	Dam Complex-Adit to Bottom of Desilting Chamber - Layout Plan & L-Section OPTION - 2
		DM-DC-ADIT-BOTTOM-KHEP-C-01 (SHEET 2 of 4)	Dam Complex-Adit to Bottom of Desilting Chamber - Portal Details
		DM-DC-ADIT-BOTTOM-KHEP-C-01 (SHEET 3 of 4)	Dam Complex-Adit to Bottom of Desilting Chamber - Excavation & Rock Support Details
		DM-DC-ADIT-BOTTOM-KHEP-C-01 (SHEET 4 of 4)	Dam Complex-Adit to Bottom of Desilting Chamber - Portal Reinforcement Details
		DM-DC-ADIT-BOTTOM-KHEP-C-02 (SHEET 1 of 2)	Dam Complex-Adit to Bottom of Desilting Chamber - Excavation & Rock Support Details
		DM-DC-ADIT-BOTTOM-KHEP-C-02 (SHEET 2 of 2)	Dam Complex-Adit to Bottom of Desilting Chamber - Excavation & Rock Support Details
		DM-DC-ADIT-TOP-KHEP-C-01 (SHEET 1 of 4)	Dam Complex-Adit to top of Desilting Chamber-Layout Plan & L-Section
		DM-DC-ADIT-TOP-KHEP-C-01 (SHEET 2 of 4)	Dam Complex-Adit to top of Desilting Chamber-Portal Details
		DM-DC-ADIT-TOP-KHEP-C-01 (SHEET 3 of 4)	Dam Complex-Adit to top of Desilting Chamber- Excavation & Rock Support Details
		DM-DC-ADIT-TOP-KHEP-C-01 (SHEET 3 of 4)	Dam Complex-Adit to top of Desilting Chamber- Excavation & Rock Support Details
		DM-DC-ADIT-TOP-KHEP-C-01 (SHEET 4 of 4)	Dam Complex-Adit to top of Desilting Chamber- Portal Reinforcement Details

Date	Quantity (No)	Drawing No.	Description of drawings
14.06.2021	10	DM-DC-ADIT-TOP-KHEP-C-02 (SHEET 1 of 2)	Dam Complex-Adit to top of Desilting Chamber- Excavation & Rock Support Details
		DM-DC-ADIT-TOP-KHEP-C-02 (SHEET 2 of 2)	Dam Complex-Adit to top of Desilting Chamber- Excavation & Rock Support Details
		DAM-KHEP-LAYOUT PLAN-C-01	DAM Complex- Layout Plan
		DT-KHEP-SUPPORT SYSTEM-C-01 (SHEET 1 of 3)	Diversion Tunnel -Typical Excavation Sections & Rock Support Details
		DT-KHEP-SUPPORT SYSTEM-C-01 (SHEET 2 of 3)	Diversion Tunnel -Typical Excavation - Sections & Rock Support Details
		DT-KHEP-SUPPORT SYSTEM-C-01 (SHEET 3 of 3)	Diversion Tunnel -Typical Excavation - Sections & Rock Support Details
		FT-KHEP-SUPPORT SYSTEM-C-01 (SHEET 1 of 3)	Feeder Tunnel -Typical Excavation Sections & Rock Support Details
		FT-KHEP-SUPPORT SYSTEM-C-01 (SHEET 2 of 3)	Feeder Tunnel -Typical Excavation Sections & Rock Support Details
		FT-KHEP-SUPPORT SYSTEM-C-01 (SHEET 3 of 3)	Feeder Tunnel -Typical Excavation Sections & Rock Support Details
		CT-KHEP-SUPPORT SYSTEM-C-01 (SHHET 1 of 3)	Connecting Tunnel -Typical Excavation Sections & Rock Support Details
CT-KHEP-SUPPORT SYSTEM-C-01 (SHHET 2 of 3)	Connecting Tunnel -Typical Excavation Sections & Rock Support Details		
CT-KHEP-SUPPORT SYSTEM-C-01 (SHHET 3 of 3)	Connecting Tunnel -Typical Excavation Sections & Rock Support Details		
23.06.2021	8	DM-KHEP-DIV-INLET-PLAN-C-01	Dam Complex Diversion Tunnel - Inlet Portal Layout Plan
		DM-KHEP-DIV-INLET-SS-C-01 (SHEET 1 OF 4)	Dam Complex - River Diversion Works Diversion Tunnel Inlet Portal - Support System Details
		DM-KHEP-DIV-INLET-SS-C-01 (SHEET 2 OF 4)	Dam Complex - River Diversion Works Diversion Tunnel Inlet Portal - Rock Support System Details





Date	Quantity (No)	Drawing No.	Description of drawings
		DM-KHEP-DIV-INLET-SS-C-01 (SHEET 3 OF 4)	Dam Complex - River Diversion Works Diversion Tunnel Inlet Portal - Rock Support Details at Inlet Portal
		DM-KHEP-DIV-INLET-SS-C-01 (SHEET 4 OF 4)	Dam Complex - River Diversion Works Diversion Tunnel Inlet Portal - Rock Support Details at Inlet Portal
		DM-KHEP-DIV-INLET-Z&T-C-01 (SHEET 1 of 3)	Dam Complex - River Diversion Works Diversion Tunnel - Zoning & Transition Details of Inlet Portal
		DM-KHEP-DIV-INLET-Z&T-C-01 (SHEET 2 of 3)	Dam Complex - River Diversion Works Diversion Tunnel - Zoning & Transition Details of Inlet Portal
		DM-KHEP-DIV-INLET-Z&T-C-01 (SHEET 3 of 3)	Dam Complex - River Diversion Works Diversion Tunnel - Zoning & Transition Details of Inlet Portal
02.07.2021	9	DM-KHEP-DIV-PLAN-C-01 (SHEET 1 of 2)	Dam Complex Diversion Tunnel - Layout Plan
		DM-KHEP-DIV-PLAN-C-01 (SHEET 2 of 2)	Dam Complex Diversion Tunnel - Longitudinal & Cross Sections
		DM-KHEP-DIV-OUTLET-PLAN-C-01	Dam Complex Diversion Tunnel - Outlet Portal Layout Plan
		DM-KHEP-DIV-OUTLET-SS-C-01 (SHEET 1 of 3)	Dam Complex - River Diversion Works Diversion Tunnel Outlet Portal - Support System Details
		DM-KHEP-DIV-OUTLET-SS-C-01 (SHEET 2 of 3)	Dam Complex - River Diversion Works Diversion Tunnel Rock Support Details at Outer Portal
		DM-KHEP-DIV-OUTLET-SS-C-01 (SHEET 3 of 3)	Dam Complex - River Diversion Works Diversion Tunnel Rock Support Details at Outer Portal
		DM-KHEP-DIV-OUTLET-Z&T-C-01 (SHEET 1 OF 3)	Dam Complex - River Diversion Works Diversion Tunnel - Zoning & Transition Details of Outlet Portal
		DM-KHEP-DIV-OUTLET-Z&T-C-01 (SHEET 2 OF 3)	Dam Complex - River Diversion Works Diversion Tunnel - Outlet Portal Transition Details
		DM-KHEP-DIV-OUTLET-Z&T-C-01 (SHEET 3 OF 3)	Dam Complex - River Diversion Works Diversion Tunnel - Zoning & Transition Details of Outlet Portal



Date	Quantity (No)	Drawing No.	Description of drawings
30.06.2022	5	PL-KHEP-FT-LINING-C-01	Power Intake-Feeder Tunnel-Lining Details
		PL-KHEP-FT-GROUTING-C-01	Power Intake-Feeder Tunnel-GROUTING Details
		HRT-KHEP-LINING-C-01 (Sheet 1 of 2)	Head Race Tunnel - Lining Details
13.07.2022	1	HRT-KHEP-LINING-C-02 (Sheet 2 of 2)	Head Race Tunnel - Lining Details
		HRT-KHEP-GROUTING-C-01	Head Race Tunnel - Grouting Details
		DC-KHEP-GROUTING-C-01	Desilting Chamber - Grouting Details
01.08.2022	17	Revised Dam Excavation Drawings	
25.10.2022	10	KHEP-DAM COMPLEX-C-01	General Layout Plan (Revised)
		KHEP-DAM COMPLEX-C-02	Layout Plan and Approach Road
		KHEP-DAM COMPLEX-C-03	Excavation and Support Details at Dam Axis
		KHEP-DAM COMPLEX-C-04	Excavation and Support Details at 50 m D/s of Dam Axis
		KHEP-DAM COMPLEX-C-05	Excavation and Support Details at 80m D/s of Dam Axis
		KHEP-DAM COMPLEX-C-06	Excavation and Support Details at 80m D/s of Dam Axis
		KHEP-DAM COMPLEX-C-07	Excavation and Support Details (Geology) 70m U/S of Dam Axis
		KHEP-DAM COMPLEX-C-08	Excavation and Support Details (Geology) 50m U/S of Dam Axis
		KHEP-DAM COMPLEX-C-09	Excavation and Support Details (Geology) 10m U/S of Dam Axis
		KHEP-DAM COMPLEX-C-10	Excavation and Support Details (Geology) 20m D/S of Dam Axis
		KHEP-DAM COMPLEX-C-11	Excavation and Support Details (Geology) 40m D/S of Dam Axis
		KHEP-DAM COMPLEX-C-12	Excavation and Support Details (Geology) 60m D/S of Dam Axis
		KHEP-DAM COMPLEX-C-13	Excavation and Support Details (Geology) 70m D/S of Dam Axis
		KHEP-DAM COMPLEX-C-14	Excavation and Support Details (Geology) 100m D/S of Dam Axis
Approach Road			
KHEP-DAM COMPLEX-C-15	Excavation and Support Details 150m D/S of Dam Axis		
KHEP-DAM COMPLEX-C-16	Excavation Profile at 200,250 & 300 m D/S of Dam Axis		
KHEP-DAM COMPLEX-C-17	Excavation Profile at 350M D/S to Dam Axis & L-Section of Approach Road		
KHEP-DAM COMPLEX-C-18 (Sheet 1 of 8)	Dam Complex-Concrete Gravity Dam - Curtain Grouting		



Date	Quantity (No)	Drawing No.	Description of drawings
		KHEP-DAM COMPLEX-C-19 (Sheet 2 of 8)	Dam Complex-Foundation Treatment - Curtain Grouting & Drainage
		KHEP-DAM COMPLEX-C-20 (Sheet 3 of 8)	Dam Complex-Foundation Treatment - Curtain Grouting & Drainage
		KHEP-DAM COMPLEX-C-21 (Sheet 4 of 8)	Dam Complex-Foundation Treatment - Curtain Grouting & Drainage
		KHEP-DAM COMPLEX-C-22 (Sheet 5 of 8)	Dam Complex-Foundation Treatment - Curtain Grouting & Drainage
		KHEP-DAM COMPLEX-C-23 (Sheet 6 of 8)	Dam Complex-Foundation Treatment - Curtain Grouting & Drainage
		KHEP-DAM COMPLEX-C-24 (Sheet 7 of 8)	Dam Complex-Foundation Treatment - Curtain Grouting & Drainage
		KHEP-DAM COMPLEX-C-25 (Sheet 8 of 8)	Dam Complex-Foundation Treatment - Curtain Grouting & Drainage
		KHEP-DAM COMPLEX-C-26 (Sheet 1 of 2)	Dam Complex-Foundation Treatment – Consolidation Grouting
		KHEP-DAM COMPLEX-C-27 (Sheet 2 of 2)	Dam Complex-Foundation Treatment – Consolidation Grouting
05.11.2022	23	KHEP-DAM COMPLEX-C-28 (Sheet 1 of 6)	Dam Complex-Pier Reinforcement for Zone-1 & 2 in Block No.4, 7, 8 up to EL. 1543.00m
		KHEP-DAM COMPLEX-C-29 (Sheet 2 of 6)	Dam Complex-Pier Reinforcement for Zone-1 & 2 in Block No.4, 7, 8 up to EL. 1543.00m
		KHEP-DAM COMPLEX-C-30 (Sheet 3 of 6)	Dam Complex-Pier Reinforcement for Zone-1 & 2 in Block No.4, 7, 8 up to EL. 1543.00m
		KHEP-DAM COMPLEX-C-31 (Sheet 4 of 6)	Dam Complex-Pier Reinforcement for Zone-1 & 2 in Block No.4, 7, 8 up to EL. 1543.00m
		KHEP-DAM COMPLEX-C-32 (Sheet 5 of 6)	Dam Complex-Pier Reinforcement for Zone-1 & 2 in Block No.4, 7, 8 up to EL. 1543.00m

Date	Quantity (No)	Drawing No.	Description of drawings
		KHEP-DAM COMPLEX-C-33 (Sheet 6 of 6)	Complex-Pier Reinforcement for Zone-1 & 2 in Block No.4, 7, 8 up to EL. 1543.00m
		KHEP-DAM COMPLEX-C-34 (Sheet 1 of 3)	Dam Complex-Sluice Spillway-Crest and Bucket Reinforcement
		KHEP-DAM COMPLEX-C-35 (Sheet 2 of 3)	Dam Complex-Sluice Spillway-Crest and Bucket Reinforcement
		KHEP-DAM COMPLEX-C-36 (Sheet 3 of 3)	Dam Complex-Sluice Spillway-Crest and Bucket Reinforcement
		KHEP-DAM COMPLEX-C-37 (Sheet 1 of 4)	Dam Complex-Pier Reinforcement of Pier Over Spillway Bucket Portion
		KHEP-DAM COMPLEX-C-38 (Sheet 2 of 4)	Dam Complex-Pier Reinforcement of Pier Over Spillway Bucket Portion
		KHEP-DAM COMPLEX-C-39 (Sheet 3 of 4)	Dam Complex-Pier Reinforcement of Pier Over Spillway Bucket Portion
		KHEP-DAM COMPLEX-C-40 (Sheet 4 of 4)	Dam Complex-Pier Reinforcement of Pier Over Spillway Bucket Portion
		KHEP-DAM COMPLEX-C-41 (Sheet 1 of 9)	Dam Complex-Pier Reinforcement for Zone-1 & 2 in Block No.5 & 6 up to EL. 1543.00m
		KHEP-DAM COMPLEX-C-42 (Sheet 2 of 9)	Dam Complex-Pier Reinforcement for Zone-1 & 2 in Block No.5 & 6 up to EL. 1543.00m
		KHEP-DAM COMPLEX-C-43 (Sheet 3 of 9)	Dam Complex-Pier Reinforcement for Zone-1 & 2 in Block No.4,7 & up to EL. 1543.00m
		KHEP-DAM COMPLEX-C-44 (Sheet 4 of 9)	Dam Complex-Pier Reinforcement for Zone-1 & 2 in Block No. 4,7 & up to EL. 1543.00m
		KHEP-DAM COMPLEX-C-45 (Sheet 5 of 9)	Dam Complex-Pier Reinforcement for Zone-1 & 2 in Block No. 4,7 & up to EL. 1543.00m
		KHEP-DAM COMPLEX-C-46 (Sheet 6 of 9)	Dam Complex-Pier Reinforcement for Zone-1 & 2 in Block No.5 & 6 up to EL. 1543.00m



Date	Quantity (No)	Drawing No.	Description of drawings
		KHEP-DAM COMPLEX-C-47 (Sheet 7 of 9)	Dam Complex-Pier Reinforcement for Zone-1 & 2 in Block No.5 & 6 up to EL. 1543.00m
		KHEP-DAM COMPLEX-C-48 (Sheet 8 of 9)	Dam Complex-Pier Reinforcement for Zone-1 & 2 in Block No.5 & 6 up to EL. 1543.00m
		KHEP-DAM COMPLEX-C-49 (Sheet 9 of 9)	Dam Complex-Pier Reinforcement for Zone-1 & 2 in Block No.5 & 6 up to EL. 1543.00m
		KHEP-DAM COMPLEX-C-50	Dam Complex-Reinforcement of Right Pier of Block-5 and Left Pier of Block-6 Over Spillway Bucket Portion
26.12.2022	5	DAM-KHEP-CWPRS-HMS-01 (Sheet 1 of 8)	Concrete Dam - General Layout Plan
		DAM-KHEP-CWPRS-HMS-01 (Sheet 2 of 8)	Concrete Dam - Plan
		DAM-KHEP-CWPRS-HMS-01 (Sheet 4 of 8)	Concrete Dam - Overflow Section
		DAM-KHEP-CWPRS-HMS-01 (Sheet 5 of 8)	Concrete Dam - Overflow Section
		DAM-KHEP-CWPRS-HMS-01 (Sheet 6 of 8)	Concrete Dam - Overflow Section
29.12.2022	1	DM-KHEP-DIV-PLUG-C-01	Dam Complex-River Diversion Works- Diversion Tunnel - Plug Details
04.01.2023	7	DM-KHEP-PI-PLAN-C-01 (Sheet 1 of 7)	Dam Complex-Power Intake-Layout Plan
		DM-KHEP-PI-SECTION-C-02 (Sheet 2 of 7)	Dam Complex-Power Intake-Typical Cross Section
		DM-KHEP-PI-C-03 (Sheet 3 of 7)	Dam Complex-Power Intake-Plan at EL.1548.50m (C/L of Intake Tunnel)
		DM-KHEP-PI-C-04 (Sheet 4 of 7)	Dam Complex-Power Intake-Plan at EL. 1556.50m (C/L of Intake Tunnel)
		DM-KHEP-PI-C-05 (Sheet 5 of 7)	Dam Complex-Power Intake-Plan at EL.1565.00m (C/L of Intake Tunnel)
		DM-KHEP-PI-C-06 (Sheet 6 of 7)	Dam Complex-Power Intake-Top View Plan





Date	Quantity (No)	Drawing No.	Description of drawings
19.01.2023	2	DM-KHEP-PI-C-07 (Sheet 7 of 7) DC-KHEP-LINING-C-01 DC-KHEP-SUPPORT SYSTEM-C-01	Dam Complex-Power Intake-Front View Desilting Chamber-Main Chamber- Lining Details Desilting Chamber-Main Chamber- Rock Support Details
	129		

2. Construction Drawings for KC-2 Contract Package

Date	Quantity (No)	Drawing No.	Description of drawings
24.05.2021	20	CD-KHEP-LAYOUT PLAN-C-01 CD-KHEP-L-SECTION-C-01 HRT-KHEP-SUPPORT SYSTEM-C-01 (SHEET 1 OF 3) HRT-KHEP-SUPPORT SYSTEM-C-01 (SHEET 2 OF 3) HRT-KHEP-SUPPORT SYSTEM-C-01 (SHEET 3 OF 3) HRT-AD-II-KHEP-C-01 (SHEET 1 OF 4) HRT-AD-II-KHEP-C-01 (SHEET 2 OF 4) HRT-AD-II-KHEP-C-01 (SHEET 3 OF 4) HRT-AD-II-KHEP-C-01 (SHEET 4 OF 4) HRT-AD-II-KHEP-C-02 (SHEET 1 OF 2)	KHEP-Chaplangchhu Diversion -General arrangement - Layout plan KHEP-Chaplangchhu Diversion - General arrangement - L- Section Head Race Tunnel - Typical excavation sections & Rock support details Head Race Tunnel - Typical excavation sections & Rock support details Head Race Tunnel - Typical excavation sections & Rock support details Head Race Tunnel - Construction Adit- II - Layout Plan & L-Section Head Race Tunnel - Construction Adit- II - Portal concrete outline details Head Race Tunnel - Construction Adit- II - Portal excavation & Rock support details Head Race Tunnel - Construction Adit- II - Portal reinforcement details Head Race Tunnel -Construction Adit-II- Excavation & Rock support details

		HRT-AD-II-KHEP-C-02 (SHEET 2 OF 2)	Head Race Tunnel -Construction Adit-II- Excavation & Rock support details
		CRDA-KHEP-SUPPORT SYSTEM-C-01 (SHEET 1 OF 2)	Chaplangchhu Nallah Diversion Arrangement - Inlet tunnel-Excavation and Rock support details
		CRDA-KHEP-SUPPORT SYSTEM-C-01 (SHEET 2 OF 2)	Chaplangchhu Nallah Diversion Arrangement - Inlet tunnel-Excavation and Rock support details
		CRDA-KHEP-CT-SUPPORT SYSTEM-C-01 (SHEET 1 OF 2)	Chaplangchhu Nallah Diversion Arrangement - Connecting tunnel excavation & Rock support details
		CRDA-KHEP-CT-SUPPORT SYSTEM-C-01 (SHEET 2 OF 2)	Chaplangchhu Nallah Diversion Arrangement - Connecting tunnel excavation & Rock support details
		CRDA -TW-KHEP-C-01 (SHEET 1 OF 2)	Trench weir - Layout Plan and Sections
		CRDA -TW-KHEP-C-01 (SHEET 2 OF 2)	Trench weir - Sections
		CRDA -DS-KHEP-C-01 (SHEET 1 OF 3)	Drop shaft - Open excavation Plan and Sections
		CRDA -DS-KHEP-C-01 (SHEET 2 OF 3)	Excavation and Drop shaft - Shaft rock Support details
		CRDA -DS-KHEP-C-01 (SHEET 3 OF 3)	Excavation and Drop shaft - Shaft rock Support details
		HRT- LAYOUT PLAN-KHEP-C-01	Head Race Tunnel - Layout Plan
		HRT-L-SECTION-KHEP-C-01	Head Race Tunnel - Longitudinal Section
		HRT-AD-III-KHEP-C-01 (SHEET 1 OF 4)	Head Race Tunnel - Construction Adit- III - Layout Plan & L-Section
		HRT-AD-III-KHEP-C-01 (SHEET 2 OF 4)	Head Race Tunnel - Construction Adit- III - Portal Concrete outline details
		HRT-AD-III-KHEP-C-01 (SHEET 3 OF 4)	Head Race Tunnel - Construction Adit- III - Portal Excavation & Rock support details
		HRT-AD-III-KHEP-C-01 (SHEET 3 OF 4)	Head Race Tunnel - Construction Adit- III - Portal Reinforcement details
		HRT-AD-III-KHEP-C-02 (SHEET 1 OF 2)	Head Race Tunnel -Construction Adit-III Excavation & Rock support details
31.05.2021	20		



		HRT-AD-III-KHEP-C-02 (SHEET 2 OF 2)	Head Race Tunnel-Construction Adit-III - Excavation & Rock support details
		HRT-AD-IV-KHEP-C-01 (SHEET 1 OF 4)	Head Race Tunnel - Construction Adit- IV - Layout Plan & L-Section
		HRT-AD-IV-KHEP-C-01 (SHEET 2 OF 4)	Head Race Tunnel - Construction Adit- IV - Portal Concrete outline details
		HRT-AD-IV-KHEP-C-01 (SHEET 3 OF 4)	Head Race Tunnel - Construction Adit- IV - Portal Excavation & Rock support details
		HRT-AD-IV-KHEP-C-01 (SHEET 4 OF 4)	Head Race Tunnel - Construction Adit- IV - Portal Reinforcement details
		HRT-AD-IV-KHEP-C-02 (SHEET 1 OF 2)	Head Race Tunnel -Construction Adit-IV Excavation & Rock support details
		HRT-AD-IV-KHEP-C-02 (SHEET 2 OF 2)	Head Race Tunnel -Construction Adit-IV Excavation & Rock support details
		HRT-AD-V-KHEP-C-01 (SHEET 1 OF 4)	Head Race Tunnel - Construction Adit- V - Layout Plan & L-Section
		HRT-AD-V-KHEP-C-01 (SHEET 2 OF 4)	Head Race Tunnel - Construction Adit - V - Portal Concrete outline details
		HRT-AD-V-KHEP-C-01 (SHEET 3 OF 4)	Head Race Tunnel - Construction Adit - V - Portal Excavation & Rock support details
		HRT-AD-V-KHEP-C-01 (SHEET 4 OF 4)	Head Race Tunnel - Construction Adit - V - Portal Reinforcement details
		HRT-AD-V-KHEP-C-02 (SHEET 1 OF 2)	Head Race Tunnel -Construction Adit -V Excavation & Rock support details
		HRT-AD-V-KHEP-C-02 (SHEET 2 OF 2)	Head Race Tunnel -Construction Adit -V Excavation & Rock support details
06.07.2021	1	HRT-AD-II KHEP-C-01 (Revised - R1- July 2021) (SHEET 1 OF 4)	Head Race Tunnel - Construction Adit-II -Layout Plan & L-Section
29.07.2021	1	HRT-AD-II-KHEP-C-01(R1) (SHEET 1 OF 4)	Head Race Tunnel - Construction Adit-II - Layout Plan & L- Section
11.08.2021	4	HRT-AD-II-KHEP-C-01(R1) (SHEET 2 OF 4)	Head Race Tunnel - Construction Adit- II - Portal Concrete Outline Details



		HRT-AD-II-KHEP-C-01(R1) (SHEET 3 OF 4)	Head Race Tunnel - Construction Adit-II - Portal Excavation & Rock Support Details
		HRT-AD-II-KHEP-C-02(R1) (SHEET 1 OF 2)	Head Race Tunnel -Construction Adit-II Excavation & Rock Support Details
		HRT-AD-II-KHEP-C-02(R1) (SHEET 2 OF 2)	Head Race Tunnel-Construction Adit-II - Excavation & Rock Support Details
10.09.2021	2	HRT-AD-II-KHEP-C-01 (R1) (Sheet 1 of 4)	Head Race Tunnel-Construction Adit- II-Layout Plan & L-Section
		HRT-AD-II-KHEP-C-01 (R1) (Sheet 2 of 4)	Head Race Tunnel-Construction Adit- II Portal-Concrete Outline Details
15.02.2022	4	CDA-KHEP-DC-EXCAVATION PLAN-C01 (SHEET 1 of 4)	Chaplangchhu Diversion Desilting Chamber - Open Excavation Plan
		CDA-KHEP-DC-SS-C02 (SHEET 2 of 4)	Chaplangchhu Diversion Desilting Chamber - Open Excavation & Support Details (Section A - A)
		CDA-KHEP-DC-SS-C03 (SHEET 3 of 4)	Chaplangchhu Diversion Desilting Chamber - Open Excavation & Support Details (Section B - B)
		CDA-KHEP-DC-SS-C04 (SHEET 4 of 4)	Chaplangchhu Diversion Desilting Chamber - Open Excavation & Support Details (Section C - C)
26.02.2022	3	CDA-KHEP-DS-EXCAVATION PLAN-C-01 (SHEET 1 of 3)	Chaplangchhu - Drop Shaft Excavation & Support Details Plan
		CDA-KHEP-DS-SS-C-02 (SHEET 2 of 3)	Chaplangchhu -Drop Shaft Excavation & Support Details (Section 1-1 & 2-2)
		CDA-KHEP-DS-SS-C-03 (SHEET 3 of 3)	Chaplangchhu -Drop Shaft Excavation & Support Details
13.04.2022	1	CDA-KHEP-LAYOUPLAN-C-01	Chaplangchhu Diversion - General Arrangement - Layout Plan
06.05.2022	6	HRT-AD-III-KHEP-C-01 (SHEET 1 OF 4)	Head Race Tunnel - Construction Adit-III - Layout Plan & L-Section
		HRT-AD-III-KHEP-C-01 (SHEET 2 OF 4)	Head Race Tunnel - Construction Adit-III - Portal Concrete Outline Details
		HRT-AD-III-KHEP-C-01 (SHEET 3 OF 4)	Head Race Tunnel - Construction Adit-III - Portal Excavation & Rock Support Details
		HRT-AD-III-KHEP-C-01 (SHEET 4 OF 4)	Head Race Tunnel - Construction Adit-III - Portal Reinforcement Details





		HRT-AD-III-KHEP-C-02 (SHEET 1 OF 2)	(R1)	Head Race Tunnel - Construction Adit-III Excavation & Rock Support Details
		HRT-AD-III-KHEP-C-02 (SHEET 2 OF 2)	(R1)	Head Race Tunnel - Construction Adit-III Excavation & Rock Support Details
30.06.2022	4	HRT-KHEP-LINING-C-01 (Sheet 1 of 2)		Head Race Tunnel - Lining Details
		HRT-KHEP-LINING-C-02 (Sheet 2 of 2)		Head Race Tunnel - Lining Details
		HRT-KHEP-GROUTING-C-01		Head Race Tunnel - Grouting Details
		CDA-KHEP-CT-LINING-C-01		Chaplangchhu Diversion Arrangement- Connecting Tunnel-Lining Details
05.07.2022	6	CDA-KHEP-TW-LAYOUT PLAN-C-01 (Sheet 1 of 6)		Chaplangchhu Diversion Arrangement - Trench Weir – Layout Plan
		CDA-KHEP-TW-LAYOUT PLAN-C-02 (Sheet 2 of 6)		Chaplangchhu Diversion Arrangement - Trench Weir - Section 1-1 & Details
		CDA-KHEP-TW-LAYOUT PLAN-C-03 (Sheet 3 of 6)		Chaplangchhu Diversion Arrangement - Trench Weir - Section 2-2 & Support Details
		CDA-KHEP-TW-LAYOUT PLAN-C-04 (Sheet 4 of 6)		Chaplangchhu Diversion Arrangement - Trench Weir - Section 3-3
		CDA-KHEP-TW-LAYOUT PLAN-C-05 (Sheet 5 of 6)		Chaplangchhu Diversion Arrangement - Trench Weir - Section 4-4
		CDA-KHEP-TW-LAYOUT PLAN-C-06 (Sheet 6 of 6)		Chaplangchhu Diversion Arrangement - Trench Weir - Section 5-5
13.07.2022	1	CDA-KHEP-IT-LINING-C-01		Chaplangchhu Diversion Arrangement - Inlet Tunnel - Lining Details
28.07.2022	4	CT-KHEP-LINING-C-01		Connecting Tunnel to HRT -Lining Details
		CT-KHEP-GROUTING-C-01		Connecting Tunnel to HRT -Grouting Details
		CDA-KHEP-IT-GROUTING-C-01		Chaplangchhu Diversion Arrangement - Inlet Tunnel - Grouting Details
		CDA-KHEP-CT-GROUTING-C-01		Chaplangchhu Diversion Arrangement - Connecting Tunnel - Grouting Details
29.12.2022	2	HRT-AD-II-JUNCTION-KHEP-C-01 (Sheet 1 of 2)		Head Race Tunnel-Excavation & Support Details for Junction of Construction Adit- II With HRT

	HRT-AD-II-JUNCTION-KHEP-C-01 (Sheet 2 of 2)	Head Race Tunnel-Excavation & Support Details for Junction of Construction Adit- II With HRT
11.01.2023	3	Water Conductor System Construction Adit- Typical Permanent Adit Plug Details Water Conductor System Construction Adit- Typical Permanent Adit Plug With Access Gate Details Head Race Tunnel-Steel Liner Details at Chaplangchhu Nallah
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3. Construction Drawings for KC-3 Contract Package

Date	Quantity (No)	Drawing No.	Description of drawings
31.05.2021	8	HRT- LAYOUT PLAN-KHEP-C-01 HRT-L-SECTION-KHEP-C-01 HRT-AD-VI-KHEP-C-01 (SHEET 1 OF 4) HRT-AD-VI-KHEP-C-01 (SHEET 2 OF 4) HRT-AD-VI-KHEP-C-01 (SHEET 3 OF 4) HRT-AD-VI-KHEP-C-01 (SHEET 4 OF 4) HRT-AD-VI-KHEP-C-02 (SHEET 1 OF 2) HRT-AD-VI-KHEP-C-02 (SHEET 2 OF 2)	Head Race Tunnel - Layout Plan Head Race Tunnel - Longitudinal Section Head Race Tunnel - Construction Adit- VI - Layout Plan & L-Section Head Race Tunnel - Construction Adit - VI - Portal Concrete outline details Head Race Tunnel - Construction Adit - VI - Portal Excavation & Rock support details Head Race Tunnel - Construction Adit - VI - Portal Reinforcement details Head Race Tunnel -Construction Adit -VI - Excavation & Rock support details Head Race Tunnel-Construction Adit -VI - Excavation & Rock support details
07.06.2021	28	PH-PS-ADIT-I-KHEP-C-01 (SHEET 1 of 4) PH-PS-ADIT-I-KHEP-C-01 (SHEET 2 of 4)	Power House Complex - Adit-I to Horizontal Pressure shaft at EL. 1230.00 Layout plan & L-section Power House Complex - Adit-I to Horizontal Pressure shaft at EL. 1230.00 Portal details





Date	Quantity (No)	Drawing No.	Description of drawings
		PH-PS-ADIT-I-KHEP-C-01 (SHEET 3 of 4)	Power House Complex - Adit-I to Horizontal Pressure shaft at EL. 1230.00 Excavation & Rock support details
		PH-PS-ADIT-I-KHEP-C-01 (SHEET 4 of 4)	Power House Complex - Adit-I to Horizontal Pressure shaft at EL. 1230.00 Portal reinforcement details
		PH-PS-ADIT-I-KHEP-C-02 (SHEET 1 of 2)	Power House Complex - Adit-I to Horizontal Pressure shaft at EL. 1230.00 Excavation & Rock support details
		PH-PS-ADIT-I-KHEP-C-02 (SHEET 2 of 2)	Power House Complex - Adit-I to Horizontal Pressure shaft at EL. 1230.00 Excavation & Rock support details
		PH-PS-ADIT-II-KHEP-C-01 (SHEET 1 of 4)	Power House Complex - Adit-II to Horizontal Pressure shaft at EL. 980.00 Layout plan & L-section
		PH-PS-ADIT-II-KHEP-C-01 (SHEET 2 of 4)	Power House Complex - Adit-II to Horizontal Pressure shaft at EL. 980.00 Portal details
		PH-PS-ADIT-II-KHEP-C-01 (SHEET 3 of 4)	Power House Complex - Adit-II to Horizontal Pressure shaft at EL. 980.00 Excavation & Rock support details
		PH-PS-ADIT-II-KHEP-C-01 (SHEET 4 of 4)	Power House Complex - Adit-II to Horizontal Pressure shaft at EL. 980.00 Portal reinforcement details
		PH-PS-ADIT-II-KHEP-C-02 (SHEET 1 of 2)	Power House Complex - Adit-II to Horizontal Pressure shaft at EL. 980.00 Excavation & Rock support details
		PH-PS-ADIT-II-KHEP-C-02 (SHEET 2 of 2)	Power House Complex - Adit-II to Horizontal Pressure shaft at EL. 980.00 Excavation & Rock support details
		PH-PS-ADIT-KHEP-C-01 (SHEET 1 OF 2)	Power House Complex - Construction Adit to Pressure shaft bottom - Excavation & Rock Support details
		PH-PS-ADIT-KHEP-C-01 (SHEET 2 OF 2)	Power House Complex - Construction Adit to Pressure shaft bottom - Excavation & Rock Support details
		PH-MAT-KHEP-C-01 (SHEET 1 OF 4)	Power House Complex-Main Access Tunnel- Layout & L-section

Date	Quantity (No)	Drawing No.	Description of drawings
		PH-MAT-KHEP-C-01 (SHEET 2 OF 4)	Power House Complex-Main Access Tunnel - Details of Portal
		PH-MAT-KHEP-C-01 (SHEET 3 OF 4)	Power House Complex-Main Access Tunnel - Support details of Portal
		PH-MAT-KHEP-C-01 (SHEET 4 OF 4)	Power House Complex-Main Access Tunnel - Reinforcement details at Portal
		PH-MAT-KHEP-C-02 (SHEET 1 OF 2)	Power House Complex-Main Access Tunnel - Excavation & Typical support details
		PH-MAT-KHEP-C-02 (SHEET 2 OF 2)	Power House Complex-Main Access Tunnel - Excavation & Typical support details
		PH-CAT-KHEP-C-01 (SHEET 1 OF 4)	Power House Complex-Cable Access Tunnel- Layout & L-section
		PH-CAT-KHEP-C-01 (SHEET 2 OF 4)	Power House Complex-Cable Access Tunnel – Portal Details
		PH-CAT-KHEP-C-01 (SHEET 3 OF 4)	Power House Complex-Cable Access Tunnel – Portal Excavation & Rock Support details
		PH-CAT-KHEP-C-01 (SHEET 4 OF 4)	Power House Complex-Cable Access Tunnel – Portal reinforcement details
		PH-CAT-KHEP-C-02 (SHEET 1 OF 2)	Power House Complex-Cable Access Tunnel - Excavation & Rock Support details
		PH-CAT-KHEP-C-02 (SHEET 2 OF 2)	Power House Complex-Cable Access Tunnel - Excavation & Rock Support details
		PH-TRT-ADIT-KHEP-C-01 (SHEET 1 OF 2)	Power House Complex - Construction Adit to Tail Race Tunnel - Excavation & Rock Support details
		PH-TRT-ADIT-KHEP-C-01 (SHEET 2 OF 2)	Power House Complex - Construction Adit to Tail Race Tunnel - Excavation & Rock Support details
14.06.2021	6	SS-KHEP-SUPPORT SYSTEM-C-01 (SHEET 1 OF 3)	Surge Shaft - Excavation & Support Details
		SS-KHEP-SUPPORT SYSTEM-C-01 (SHEET 2 OF 3)	Surge Shaft - Excavation & Support Details





Date	Quantity (No)	Drawing No.	Description of drawings
		SS-KHEP-SUPPORT SYSTEM-C-01 (SHEET 3 OF 3)	Surge Shaft - Excavation & Support Details
		TRT-KHEP-SUPPORT SYSTEM-C-01 (SHEET 1 OF 3)	Tail Race Tunnel - Typical Excavation Sections & Rock Supports
		TRT-KHEP-SUPPORT SYSTEM-C-01 (SHEET 2 OF 3)	Tail Race Tunnel - Typical Excavation Sections & Rock Supports
		TRT-KHEP-SUPPORT SYSTEM-C-01 (SHEET 3 OF 3)	Tail Race Tunnel - Typical Excavation Sections & Rock Support
30.08.2021	6	PHC-KHEP-EXCAVATION PLAN-C-01 (Sheet 1 of 6)	Power House Complex - Excavation Plan at EL. 784.00
		PHC-KHEP-PH-SS-C-01 (Sheet 2 of 6)	Power House Complex - Power House Cavern L-Section - Excavation & Support Details
		PHC-KHEP-PH-SS-C-01 (Sheet 3 of 6)	Power House Complex - Power House Cavern L-Section - Excavation & Support Details
		PHC-KHEP-TH-SS-C-01 (Sheet 4 of 6)	Power House Complex - Transformer Hall Cavern L-Section - Excavation & Support Details
		PHC-KHEP-PH & TH-SS-C-01 (Sheet 5 of 6)	Power House Complex - Power House & Transformer Hall Caverns Cross-Section Excavation & Support Detail
		PHC-KHEP-PH & TH-SS-C-01 (Sheet 6 of 6)	Power House Complex - Power House & Transformer Hall Caverns Cross-Section Excavation & Support Details
12.10.2021	3	PHC-KHEP-BVC-LAYOUT PLAN-C-01 (Sheet 1 of 3)	Power House Complex – Butterfly Valve Chamber - Layout Plan
		PHC-KHEP-BVC-SS-C-01 (Sheet 2 of 3)	Power House Complex – Butterfly Valve Chamber – Excavation & Support System details
		PHC-KHEP-BVC-SS-C-01 (Sheet 3 of 3)	Power House Complex – Butterfly Valve Chamber – Excavation & Support System details
30.06.2022	3	HRT-KHEP-LINING-C-01 (Sheet 1 of 2)	Head Race Tunnel - Lining Details



Date	Quantity (No)	Drawing No.	Description of drawings
		HRT-KHEP-LINING-C-02 (Sheet 2 of 2)	Head Race Tunnel - Lining Details
		HRT-KHEP-GROUTING-C-01	Head Race Tunnel - Grouting Details
13.07.2022	2	TRT-KHEP-LINING-C-01	Tail Race Tunnel-Lining Details
		TRT-KHEP-GROUTING-C-01	Tail Race Tunnel-Grouting Details
21.10.2022	22	PHC-KHEP-AB-FLOOR PLAN-C-01 (Sheet 1 of 6)	Power House Complex-Auxiliary Bay - Floor Plans at EL. 779.50
		PHC-KHEP-AB-FLOOR PLAN-C-02 (Sheet 2 of 6)	Power House Complex-Auxiliary Bay - Floor Plans at EL. 784.00
		PHC-KHEP-AB-FLOOR PLAN-C-03 (Sheet 3 of 6)	Power House Complex-Auxiliary Bay - Floor Plans at EL. 788.50
		PHC-KHEP-AB-FLOOR PLAN-C-04 (Sheet 4 of 6)	Power House Complex-Auxiliary Bay - Floor Plans at EL. 793.00
		PHC-KHEP-AB-FLOOR PLAN-C-05 (Sheet 5 of 6)	Power House Complex-Auxiliary Bay - Floor Plans at EL. 797.5
		PHC-KHEP-AB-FLOOR PLAN-C-06 (Sheet 6 of 6)	Power House Complex-Auxiliary Bay - Floor Plans at EL. 801.50
		PHC-KHEP-BVC-CLP-C-01 (Sheet 1 of 3)	Power House Complex - Butterfly Valve Chamber - Column and Foundation Layout Plan at EL. 1477.5
		PHC-KHEP-BVC-FR-AB-C-02 (Sheet 2 of 3)	Power House Complex - Butterfly Valve Chamber Frame Along A and B-Line
		PHC-KHEP-BVC-FR-CR-C-03 (Sheet 3 of 3)	Power House Complex - Butterfly Valve Chamber - Cross Beam Details
		PHC-KHEP-BVC-COLUMN-RF-C-04	Power House Complex - Butterfly Valve Chamber - Column Reinforcement Details
		PHC-KHEP-BVC-CRN-RF-C-05	Power House Complex - Butterfly Valve Chamber Crane Beam Reinforcement Details at EL. 1488.3



Date	Quantity (No)	Drawing No.	Description of drawings
		PHC-KHEP-BVC-CRS-BM-C-06	Power House Complex - Cross Beam Reinforcement Details (Along Frame - A Upstream Wall)
		PHC-KHEP-BVC-CRS-BM-C-07	Power House Complex - Cross Beam Reinforcement Details (Along Frame - B Downstream Wall)
		PHC-KHEP-BVC-EOT-C-08	Power House Complex - Butterfly Valve Chamber EOT Crane Rail Arrangement
		SS-KHEP-LINING-C-01 (Sheet 1 of 2)	Surge Shaft – Lining Details
		SS-KHEP-LINING-C-02 (Sheet 2 of 2)	Surge Shaft – Lining Details
		PH-KHEP-UNIT TRT-GROUTING-C-01	Power House Complex-Unit TRT Contact and Consolidation Grouting Details
		PH-KHEP-BRANCH GROUTING-C-01	Power House Complex-Branch TRT-Contact and Consolidation Grouting Details
		PS-KHEP-SL-C-01 (Sheet 1 of 4)	Pressure Shaft - Steel Liner Details
		PS-KHEP-SL-C-02 (Sheet 2 of 4)	Pressure Shaft - Steel Liner Details
		PS-KHEP-SL-C-03 (Sheet 3 of 4)	Pressure Shaft - Steel Liner Details
		PS-KHEP-SL-C-04 (Sheet 4 of 4)	Pressure Shaft - Steel Liner Details
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4. Design Memos/Design Calculations Received

SN	Report No.	Description
1	May-22	Design Note on Stability Assessment of Dam Abutments (includes intake)
2	WAP/KHEP/PHC/PH&TH/SS/Report/Draft - October 2021	Design Note on Power House Complex Support System
3	WAP/KHEP/CRDA/CT/SS/Report/Draft - October 2021	Design Note on Chaplangchhu River Diversion Arrangement of Connecting Tunnel Support System
4	WAP/KHEP/HRT/Relocated Adit II/Report/Draft - August 2021	Design Note on Slope Stability Analysis of HRT Relocated Adit II Portal
5	Mar-21	Draft Design Note on Pressure Shaft Adit I Portal Support System
6	Mar-21	Draft Design Note on Pressure Shaft Adit II Portal Support System
7	Nov-20	Draft Design Note on Main Access Tunnel Portal Support System
8	Nov-20	Draft Design Note on Cable Access Tunnel Portal Support System
9	Oct-20	Draft Design Note on Head Race Tunnel Adit Portal Support System
10		Design Calculation Steel Liner Thickness

5. List of Technical Reports vis-à-vis Hydraulic Model Studies by CWPRS, Pune

SN	Hydraulic Model Study	Remarks
1	Hydraulic Model Studies for Spillway 1:45 scale 2-D Sectional Model	Draft technical report submitted vide letter No. WAP/P&D/RD/KHEL/2021/131 dated 12.03.2021.
2	Hydraulic Model Studies for Power Intake	Draft report submitted vide letter No. WAP/HP/CWPRS/KHEL/2022/162 dated 13.05.2022.
3	Hydraulic Model Studies for Desilting Chamber	Final Technical Report No. 6115 submitted.



SALIENT FEATURES

1 Installed Capacity	600 MW (4X150 MW)
2 Location	
State/Country	Bhutan
District	Trashiyangtse
River	Kholongchu
Nearest Village (Dam Site)	Buyang
Nearest Village (Power House Site)	Duksum
<i>Access</i>	
Airport	Paro (Bhutan) Guwahati (Assam, India) 320km
Rail Head	Rangia (Assam, India) 290km
<i>Geographical Co-ordinate</i>	
<i>Dam Site</i>	
Latitude (N)	27°32' 50"
Longitude (E)	91°30' 49"
<i>Power House</i>	
Latitude (N)	27°24' 23"
Longitude (E)	91°32' 57"
3 Meteorology	
<i>Atmospheric Temperature</i>	
Maximum Temperature	26°C
Minimum Temperature	4°C
4 Hydrology	
Catchment Area at Diversion Site	1044 Sq.km
Snow Catchment (out of Total)	15 Sq.km
Maximum Observed Discharge at Dam site	929 cumec
Minimum Observed Discharge at Dam site	10.3 cumec
Probable Maximum Flood (PMF)	8750 cumec
Average Annual Yield	1621 MCM



Full Reservoir Level (FRL)	EL 1572.00 m
Minimum Draw Down Level (MDDL)	EL 1558.00 m
Water Spread at FRL	12.68 Ha
Gross Storage at FRL	2.9 MCM
Dead Storage at FRL	1.52 MCM
Live Storage	1.38 MCM
Length of Reservoir	1.4 km

6 Dam

Type of Dam	Concrete Gravity Dam
Top Elevation of Dam	El. 1574.00 m
River bed level at Dam Site	El. 1512.00 m
Dam Height above River bed	62 m
Deepest Foundation Level	El. 1479.65 m
Maximum Height above Foundation Level	95 m
Length of Dam at Top	165 m
Top Width of Dam	6 m
Length of Overflow Blocks	69 m
Length of Non-Overflow Blocks	96 m

7 Spillway

Design Flood	8750 cumec (PMF)
Energy Dissipation System	Trajectory Bucket with naturally formed Plunge Pool
<i>Lower Tier</i>	
Type	Ogee with Sluice type
No. of Bays	5 Bays
Size of Gate	7.8 (W) X 12.5 (H)
Crest Level	EL. 1525.00 m
<i>Upper Tier</i>	
Type	Ogee with Open Crest
No. of Bays	1 Bay
Size of Gate	7.8 (W) X 4.3 (H)
Crest Level	EL. 1568.00 m



8 Diversion Tunnel

Location of Diversion Tunnel	Left Bank
No. of Tunnel/s	1 No.
Size of Tunnel	10 m Diameter
Shape of Tunnel	Horse Shoe Shape
Length of Tunnel	372 m
Diversion Discharge (25 years)	1112 cumec
Inlet Invert Level	EL. 1521.00 m
Outlet Invert Level	EL. 1508.00 m
Diversion Tunnel Gate	10 m (W) X 10 m (H)

9 Power Intake

Type	Straight Type with Incline Trash Rack
Number/s	2 Nos.
Design Discharge (All units running at full load including 20% of Flushing Discharge)	56.4 cumec each
Invert Level	EL. 1546.65 m
Level at Centre of Tunnel	EL. 1549.00 m
Top Level	EL. 1574.00 m
<i>Intake Feeder Tunnel</i>	
No. of Tunnel/s	2 Nos.
Size of Tunnel	4.7 m Diameter
Shape of Tunnel	Horse Shoe Shape
Length	198m & 233 m

10 Desilting Chamber

Number/s	2 Nos.
Size	13 (W) X 17.5 (H)
Length	350 m
Average Design Discharge (with 10% Overload)	53.85 cumec each
Maximum Particle Size to be Removed	0.2 mm and above



11 Silt Flushing Tunnel

Main Tunnel

Size of Tunnel	2.5 (W) X 3.5 (H)
Shape of Tunnel	D Shape
Length of Tunnel	97 m

Branch Tunnel

Size of Tunnel	1.5 (W) X 2.2 (H)
Shape of Tunnel	D Shape
Length of Tunnel	125, 200 m

12 Head Race Tunnel

Design Discharge	89 cumec
Size of Tunnel	5.7 Diameter
Shape of Tunnel	Horse Shoe Shape
Length of Tunnel	15.77 km
Adits	6 Nos. 6.8 Diameter, D Shape

13 Chapnangchu Diversion

FSL	EL. 1576.00 m
Design Discharge	5 cumec
Trench Weir	10 (L) X 2.5 (W) X 3 (H)
Intake Invert Level	EL. 1574.30 m
Feeder Tunnel	2 (W) X 2.5 (H), 110m Long
Desilting Chamber	5 (W) X 7(H), 110m Long
Inlet Tunnel to Drop Shaft	2.1(W) X 2.1(H), 220m Long
Drop Shaft	2.5 Diameter, 75m deep, Open to sky
Connecting Tunnel - Drop Shaft to HRT	1.8(W) X 2.1(H), 485m Long

14 Surge Shaft

Number/s	1 No.
Type	Restricted Orifice Type
Size & shape	9.5 m Diameter, circular
Height	152.8 m
Top Level	EL. 1640.00 m
Gates	2.75 (W) X 5.22 (H), 2 Nos.



15 Valve House

Number/s	2 Nos.
Type	Butterfly Valve
Size of valve	3.3 m Diameter

16 Pressure Shaft*Main Pressure Shaft*

Number/s	2 Nos.
Type	Circular
Size	3.3 m Diameter
Length	1200.57 m Long each

Branch Pressure Shaft

Number/s	4 Nos.
Type	Circular
Size	2.35 m Diameter
Length	187 m Long

17 Power House Complex

Type	Underground Power House
Location	Right Bank of Dramengchu (Gongrichu)
No. of Cavern/s	2 Nos.

18 Power House - Machine Hall

Size	132 (L) X 21 (W) X 42.5 (H) m
Type of Turbine	Pelton Wheel
Number/s	4 Nos.
Capacity	150 MW each
Distributor Centre line Level	EL. 772.50 m
Turbine Floor Level	EL. 775.00 m
Generator Floor Level	EL. 779.50 m
Service Bay Floor Level	EL. 784.00 m
Maximum Tail Water Level	EL. 768.00 m
Design Head	761.53 m (net)



19	Transformer Hall, GIS cum TRT Gate Operation Cavern	
	Facilities	Transformer Hall, GIS, TRT Gate Operation
	Size	130 (L) X 16 (W) X 24 (H) m
	Transformer Hall Floor Level	EL. 784.00 m
20	Access Tunnels (PH Complex)	
	<i>Main Access Tunnel (MAT)</i>	
	Size, Shape & Length	8 m Diameter, D Shape, 255.20 m long
	<i>Cable Access Tunnel (CAT)</i>	
	Size, Shape & Length	6.5 m Diameter, D Shape, 251 m long
	<i>Ventilation Tunnel</i>	
	Size, Shape & Length	6.5 m Diameter, D Shape, 87.99 m long
	<i>Drainage Gallery</i>	
	Size, Shape & Length	2.5 m Diameter, D Shape, 219.54 m long
	<i>Access Tunnel</i>	
	Size, Shape & Length	7 m Diameter, D Shape, 50 m long
	<i>Escape Tunnel</i>	
	Size, Shape & Length	3 m Diameter, D Shape, 50 m long
21	Tail Race Tunnel	
	<i>Unit TRT</i>	
	Number/s	4 Nos.
	Type	D Shape
	Size	3.5 (W) X 6 (H) m
	Length	605.19 m Long
	<i>Main TRT</i>	
	Number/s	1 Nos.
	Type	D Shape
	Size	6 (W) X 6 (H) m



Length 1521.73 m Long

22 Power Generation

Design Energy in 90% Dependable year
with 95% Plant availability 2568.88 MU

Annual Load Factor 49.45%

23 Construction Period

4.9 Years after 1.5 Years of Pre-
Construction Period

24 Project Cost

Hard Cost at March-2011 Price Level Nu. 26234.2 millions

IDC Nu. 6584.4 millions

Financial Charges Nu. 231.4 millions

Cost Including IDC & Financial Charges Nu. 33050.0 millions

25 Tariff

1st year sale price at bus bar 3.47 Nu/kWh

Levellised tariff at bus bar 2.89 Nu/kWh



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 the Client 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 the Client 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 the Client 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) “Client” means Khorlochhu Hydro Power 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 Client 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 GCC.37.2;

- 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 the Client 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 the Client, 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 the Client and 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 the Client 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 Client, 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 the Client 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 the Client under this Contract, including without limitation the receiving of instructions and payments from the Client.

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 the Client 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 ITC.15.1, the Client 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 the Client or any organization or person appointed by the Client.

GCC.12.3. The Client 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. The Client 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 Client 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 Client Contract.

GCC.12.5. The Client 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. The Client 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 the Client’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 variation 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 the Client 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 the Client, shall either:

- a) demobilize, in which case the Consultant shall be reimbursed for additional costs they reasonably and necessarily incur, and, if required by the Client, 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. The Client 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 Client

GCC.21.1.1. The Client 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 the Client



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 the Client 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 the Client, has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for or in executing this Contract.
- e) If the Consultant submits to the Client a false statement which has a material effect on the rights, obligations or interests of the Client.
- 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 the Client, 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 the Client, in case of the occurrence of any of the events specified in paragraphs (a) through (d) of this clause.

- a) If the Client 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 the Client fails to comply with any final decision reached as a result of arbitration pursuant to GCC.47 hereof.
- d) If the Client 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 the Client 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 GCC.21.1 or GCC.21.2 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 the Client, 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 GCC.21.1 or GCC.21.2 hereof, the Client shall make the following payments to the Consultant:

- a) remuneration pursuant to GCC.45.1 hereof for Services satisfactorily performed prior to the effective date of termination, and reimbursable expenditures pursuant to GCC.45.2 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 GCC.21.1 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 GCC.21.1 or in GCC.21.2 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 the Client, and shall at all times support and safeguard the Client's legitimate interests in any dealings with Sub-Consultants or Third Parties.

GCC.23. Law governing Services

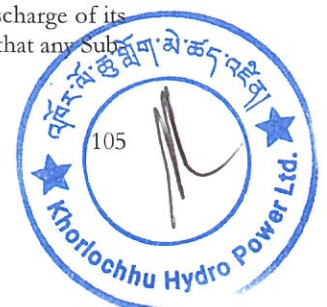
GCC.23.1. The Consultant shall perform the Services in accordance with the Applicable Laws of Bhutan and shall take all practicable steps to ensure that any Sub-Consultants, as well as the Personnel of the Consultant and any Sub-Consultants, comply with the said Applicable Laws. The Client shall notify 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 the Client'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 0 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 the Client 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 the Client. Any discounts or commissions obtained by the Consultant in the exercise of such procurement responsibility shall be for the account of the Client.

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 the Client, 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 the Client, insurance against the risks, and for the coverage specified in the SCC, and (ii) at the Client's request, shall provide evidence to the Client 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 the Client 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 the Client.



GCC.32. Actions requiring prior approval

GCC.32.1. The Consultant shall obtain the Client'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 the Client. Notwithstanding such approval, the Consultant shall retain full responsibility for the Services. In the event that any Sub-Consultants are found by the Client to be incompetent or incapable in discharging their assigned duties, the Client may request the Consultant to provide a replacement, with qualifications and experience acceptable to the Client, 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 the Client 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 the Client under this Contract shall become and remain the property of the Client, and the Consultant shall, not later than upon termination or expiration of this Contract, deliver all such documents to the Client, 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 the Client. 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 the Client's prior written approval to such agreements, and the Client 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 Client

GCC.35.1. Equipment, vehicles and materials made available to the Consultant by the Client, or purchased by the Consultant wholly or partly with funds provided by the Client, shall be the property of the Client and shall be marked accordingly. Upon termination or expiration of this Contract, the Consultant shall make available to the Client an inventory of such equipment, vehicles and materials and shall dispose of such equipment and materials in accordance with the Client's instructions. While in possession of such equipment, vehicles and materials, the Consultant, unless otherwise instructed by the Client in writing, shall insure them at the expense of the Client 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 the Client, 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 the Client, 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 GCC.45.1.1(b) of this Contract. Any other such adjustments shall only be made with the Client'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 the Client and Consultant. In case payments under this Contract exceed the ceilings set forth in GCC.45.1.1(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 the Client. In respect of other Personnel which the Consultant proposes to use in carrying out the Services, the Consultant shall submit to the Client for review and approval a copy of their Curricula Vitae (CVs). If Client 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 the Client.
- 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 the Client 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 the Client (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 the Client's written request specifying the grounds therefore, forthwith provide as a replacement a person with qualifications and experience acceptable to the Client.
- GCC.40.3. *(This clause GCC.40.3 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 the Client. 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 the Client 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 GCC.40.3 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 the Client, shall take charge of the performance of such Services.
- GCC.42. Client's Obligations**
- GCC.42.1. Unless otherwise specified in the SCC, the Client shall use its best efforts to ensure that the Government shall:
- 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.
 - 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.
 - Facilitate prompt clearance through customs of any property required for the Services and of the personal effects of the Personnel and their eligible dependents.
 - 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.
 - 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.
 - 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.



- 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 the Client, 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, the Client 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 the Client of an advance payment guarantee acceptable to the Client 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 the Client shall have approved in writing. The advance payments will be set off by the Client 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 the Client, in duplicate, itemized statements, accompanied by copies of invoices, vouchers and other appropriate supporting materials, of the amounts payable pursuant to GCC.45.1.3 and GCC.45.1.4 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) The Client shall pay the Consultant's statements within thirty (30) days after the receipt by the Client 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, the Client 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 the Client. The Services shall be deemed completed and finally accepted by the Client and the final report and final statement shall be deemed approved by the Client as satisfactory ninety (90) days after receipt of the final report and final statement by the Client unless the Client, 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 the Client 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 Client within thirty (30) days after receipt by the Consultant of notice thereof. Any such claim by the Client for reimbursement must be made within twelve (12) calendar months after receipt by the Client of a final report and a final statement approved by the Client 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 the Client 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 GCC.45.2 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 GCC.44.2, if the Parties have agreed to additional payments in accordance with 0.

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 the Client 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 the Client specifying the amount due.

GCC.45.2.4. Interest on delayed payments

If the Client 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 the Client and 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 the Client 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 the Client or the Consultant within fifty-six (56) days of such reference, the decision shall become final and binding upon the Client and 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 the Client and 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 GCC.47.1.2.

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 the Client and the Consultant.

GCC.47.2. Arbitration

GCC.47.2.1. If either the Client 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 the Client 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 GCC.47.2.1, 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) the Client 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 General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

GCC Clause Reference	Particulars
GCC.3.1	Contract shall be governed by and interpreted in accordance with the Laws of the Kingdom of Bhutan.
GCC.6.1 and GCC.6.2	For any notices or request, the addresses are: Client: Chief (Contracts) Procurement and Contracts Section Khorlochhu Hydro Power Limited Post Box No. 46001 Trashiyangtse, Bhutan Email: chief.pnc@khepbhutan.com Consultant Address: _____ Attention: _____ Facsimile: _____ E-mail (where permitted): _____
GCC.7.1	Location where the services will be performed is: As specified in the TOR
GCC.8.1	The Member in Charge is: shall be notified before signing of the contract
GCC.9.1	The Authorized Representatives are: Both parties shall notify before signing of the contract
GCC.10.1	Whether Contract Performance Guarantee (CPG) needs to be provided for the Contract: Yes The terms of the CPG will be as under: 1. Within thirty (30) days from the date of Letter of Award, the successful Bidder shall furnish to the Client, 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. 2. The format of the Bank Guarantee is provided in Form C of this document. 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 the Client.
GCC.13.1	The effective time period shall be: from the date of signing the Contract Agreement
GCC.14.1	Termination for failure to become effective shall be: 30 days from the date of issuance of Letter of Award



GCC Clause Reference	Particulars
GCC.15.1	The commencement of service shall be: from the date of signing the Contract Agreement
GCC.16.1	The time period for expiration of contract shall be 59 months from the date of signing the Contract Agreement.
GCC.16.2	Liquidated Damages: Applicable as under: 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 Client shall serve notice for such delays to the Consultant. Without prejudice to its other remedies under the Contract, the Client shall levy liquidated damages at the rate of 0.05% of the Executed Price for delay of each day subject to maximum of 10% of the Executed Price.
GCC.29.1	Limitation of the Consultant's Liability towards the Client: 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 Client's property, shall not be liable to the Client: i. for any indirect or consequential loss or damage; and ii. for any direct loss or damage that exceeds by 1.1 times the total value of the Contract. 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.
GCC.30.1	The risks and the coverage shall be as follows: a) Professional liability insurance with a minimum coverage of One (1) times of Contract Price; 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; 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 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. e)
GCC.34.1	The Consultant shall not use these documents and software for purposes unrelated to this Contract without the prior written approval of the Client.
GCC.41.1	Resident Project Manager: (Refer ToR)
GCC.42.1 (g)	The Client shall provide to the Consultant, Sub-Consultants and Personnel any such other assistance: Refer ToR
GCC.45.2.1	Total Contract Price:



GCC Clause Reference	Particulars
GCC. 45.2.3	<p>Terms and Condition of Payment</p> <p>1. Advance Payment An advance payment of 10% (Ten percent) of the Contract Price, in foreign currency and/or local currency shall be made within 30 days after the receipt of an advance payment bank guarantee, equivalent to advance amount, acceptable to the Client.</p> <p>The advance payments will be set off by the Client in equal instalments within the first 30 months of the Services until the advance payments have been fully set off.</p> <p>2. Intermediate Payment 90% of Contract Price shall be paid as per the achievement of Milestone as foreseen in the TOR. Payment for each Milestone shall be as under:</p> <ul style="list-style-type: none"> i) 20% of 90% Contract Price on achievement of Milestone 1 ii) 20% of 90% Contract Price on achievement of Milestone 2 iii) 20% of 90% Contract Price on achievement of Milestone 3 iv) 15% of 90% Contract Price on achievement of Milestone 4 v) 5% of 90% Contract Price on achievement of Milestone 5 <p>3. Final Payment 10% (Ten percent) of the Total Contract Price shall be released after the issuance of final completion certificate by the Client.</p>
GCC.45.2.4	Interest on delayed payments: Not Applicable
GCC.47.2.3 (a) and (b)	<p>Institution whose arbitration procedures shall be used: International Chambers of Commerce (ICC)</p> <p>Any dispute, controversy or claim arising out of or relating to this Contract, or breach, termination or invalidity thereof, shall be settled by arbitration in accordance with the ICC Rules as at present in force. The seat and venue of arbitration shall be Thimphu, Bhutan.</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 Client
 - 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 the Client.

You are hereby requested to furnish Contract Performance Security, in the form detailed in 0 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 the Client 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]

[Client'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 the Client] (hereinafter called “Client”) 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 “Client”) 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 the Client for all the Consultant’s obligations under this Contract, namely, [name of Consultant] and [name of Consultant] (hereinafter called the “Consultant”).]

WHEREAS

- (a) the Client has requested the Consultant to provide certain consulting services as defined in this Contract (hereinafter called the “Services”);
- (b) the Consultant, having represented to the Client 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 Client	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 the Client 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) the Client shall make payments to the Consultant in accordance with the provisions of the Contract.

3. The Contract amount between the Client 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



C – Appendices

APPENDIX A – DESCRIPTION OF SERVICES

Note:

- **For Time-Based Contracts:** *This Appendix will include the final Terms of Reference agreed by the Client and the Consultant during technical negotiations, dates for completion of various tasks, place of performance for different tasks, specific tasks to be approved by the Client, 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 the Client, 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 (0);

(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 the Client (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 the Client.
 - i. The foreign currency cost of any subcontract required for the Services and approved in writing by the Client.
 - j. The cost of training of the Client'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 the Client.*



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 the Client.
 - g. The cost of training of the Client'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 the Client.
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 CLIENT

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 the Client.
- F-2 Professional and support counterpart personnel to be made available to the Consultant by the Client.



**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 ifas 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 Client]

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]¹ 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___,² 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 the Client'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.

¹ 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.

² Insert the expected expiration date. In the event of an extension of the time for completion of the Contract, the Client 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 the Client 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%
Total		100%

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"> ✓ 100% response = 100%. ✓ 80% response = 80%. ✓ Less than 80% response = 0% 	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"> ✓ Strict adherence =100% ✓ With minor deviations= 80% ✓ Frequent non-compliance= 0% 	<ul style="list-style-type: none"> ✓ Minor deviations would mean deviations which does not lead to major issues to the project. ✓ Frequent non-compliance would mean non-compliance leading to delays.
3.3.2	Response to Non Compliance, Complaints and Notices	10%	<ul style="list-style-type: none"> ✓ 100% response = 100%. ✓ 80% response = 80%. ✓ Less than 80% response = 0% 	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"> ✓ Yes = 100% ✓ No=0% 	
3.3.4	Overall quality of the design, reports and presentation	10%	<ul style="list-style-type: none"> ✓ Excellent = 100% ✓ Good with comments =50% ✓ Poor or rejected = 0% 	

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"> ✓ Excellent = 100% ✓ Good = 50% ✓ Poor = 0% 	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"> ✓ Excellent (resolves issues by themselves)= 100% ✓ Good (with discussion with Client) = 50% ✓ Poor (solutions given by the Client)= 0% 	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"> ✓ Excellent=100% ✓ Good= 80% ✓ Poor = 0% 	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"> ✓ Excellent= 100% ✓ Good (needs to be prompted twice)= 50% ✓ Poor (always needs to prompted) =0 	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"> ✓ Consultants must be developed; ✓ Consider, but with mandatory debriefing on the short comings.
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.



