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INVITATION TO BID

Equipment for Small Hydropower Plants under SES Project

ITB No.: UNDP DPRK ITB 2018004

Project: UNDP SES Project

Country: Democratic People's Republic of Korea

Issued on: 20 September 2018

Contents

Section 1. Letter of Invitation

The United Nations Development Programme (UNDP) hereby invites you to submit a Bid to this Invitation to Bid (ITB) for the above-referenced subject.

This ITB includes the following documents and the General Terms and Conditions of Contract which is inserted in the Bid Data Sheet:

Section 1: This Letter of Invitation
Section 2: Instruction to Bidders
Section 3: Bid Data Sheet (BDS)
Section 4: Evaluation Criteria
Section 5: Schedule of Requirements and Technical Specifications
Section 6: Returnable Bidding Forms
- Form A: Bid Submission Form
- Form B: Bidder Information Form
- Form C: Joint Venture/Consortium/Association Information Form
- Form D: Qualification Form
- Form E: Format of Technical Bid
- Form F: Price Schedule

If you are interested in submitting a Bid in response to this ITB, please prepare your Bid in accordance with the requirements and procedure as set out in this ITB and submit it by the Deadline for Submission of Bids set out in Bid Data Sheet.

Please acknowledge receipt of this ITB by sending an email to **bids.china@undp.org**, indicating whether you intend to submit a Bid or otherwise. You may also utilize the "Accept Invitation" function in eTendering system, where applicable. This will enable you to receive amendments or updates to the ITB. Should you require further clarifications, kindly communicate with the contact person/s identified in the attached Data Sheet as the focal point for queries on this ITB.

UNDP looks forward to receiving your Bid and thank you in advance for your interest in UNDP procurement opportunities.

Disclaimer: Procurement of items listed in this ITB are subject to, and contingent on, applicable exemption(s) being obtained from the Security Council Committee established pursuant to resolution 1718 (2006).

Issued by

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Name: Xiao Yi
Title: Procurement Assistant
Date: **September 20, 2018**

Approved by:

_____

Name: Ge Yunyan
Title: Operations Manager
Date: **September 20, 2018**

Section 2. Instruction to Bidders

GENERAL PROVISIONS	
1. Introduction	1.1 Bidders shall adhere to all the requirements of this ITB, including any amendments made in writing by UNDP. This ITB is conducted in accordance with the UNDP Programme and Operations Policies and Procedures (POPP) on Contracts and Procurement which can be accessed at https://popp.undp.org/SitePages/POPPBSUnit.aspx?TermID=254a9f96-b883-476a-8ef8-e81f93a2b38d 1.2 Any Bid submitted will be regarded as an offer by the Bidder and does not constitute or imply the acceptance of the Bid by UNDP. UNDP is under no obligation to award a contract to any Bidder as a result of this ITB. 1.3 UNDP reserves the right to cancel the procurement process at any stage without any liability of any kind for UNDP, upon notice to the bidders or publication of cancellation notice on UNDP website. 1.4 As part of the bid, it is desired that the Bidder registers at the United Nations Global Marketplace (UNGM) website (www.ungm.org). The Bidder may still submit a bid even if not registered with the UNGM. However, if the Bidder is selected for contract award, the Bidder must register on the UNGM prior to contract signature.
2. Fraud & Corruption, Gifts and Hospitality	2.1 UNDP strictly enforces a policy of zero tolerance on proscribed practices, including fraud, corruption, collusion, unethical or unprofessional practices, and obstruction of UNDP vendors and requires all bidders/vendors observe the highest standard of ethics during the procurement process and contract implementation. UNDP's Anti-Fraud Policy can be found at http://www.undp.org/content/undp/en/home/operations/accountability/audit/office_of_audit_andinvestigation.html#anti 2.2 Bidders/vendors shall not offer gifts or hospitality of any kind to UNDP staff members including recreational trips to sporting or cultural events, theme parks or offers of holidays, transportation, or invitations to extravagant lunches or dinners. 2.3 In pursuance of this policy, UNDP: (a) Shall reject a bid if it determines that the selected bidder has engaged in any corrupt or fraudulent practices in competing for the contract in question; (b) Shall declare a vendor ineligible, either indefinitely or for a stated period, to be awarded a contract if at any time it determines that the vendor has engaged in any corrupt or fraudulent practices in competing for, or in executing a UNDP contract. 2.4 All Bidders must adhere to the UN Supplier Code of Conduct, which may be found at http://www.un.org/depts/ptd/pdf/conduct_english.pdf
3. Eligibility	3.1 A vendor should not be suspended, debarred, or otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization. Vendors are therefore required to disclose to UNDP whether they are subject to any sanction or temporary suspension imposed by these organizations. 3.2 It is the Bidder's responsibility to ensure that its employees, joint venture members, sub-contractors, service providers, suppliers and/or their employees meet the eligibility requirements as established by UNDP.

4. Conflict of Interests	4.1	Bidders must strictly avoid conflicts with other assignments or their own interests, and act without consideration for future work. Bidders found to have a conflict of interest shall be disqualified. Without limitation on the generality of the above, Bidders, and any of their affiliates, shall be considered to have a conflict of interest with one or more parties in this solicitation process, if they: a) Are or have been associated in the past, with a firm or any of its affiliates which have been engaged by UNDP to provide services for the preparation of the design, specifications, Terms of Reference, cost analysis/estimation, and other documents to be used for the procurement of the goods and services in this selection process; b) Were involved in the preparation and/or design of the programme/project related to the goods and/or services requested under this ITB; or c) Are found to be in conflict for any other reason, as may be established by, or at the discretion of UNDP.
	4.2	In the event of any uncertainty in the interpretation of a potential conflict of interest, Bidders must disclose to UNDP, and seek UNDP's confirmation on whether or not such conflict exists.
	4.3	Similarly, the Bidders must disclose in their Bid their knowledge of the following: a) If the owners, part-owners, officers, directors, controlling shareholders, of the bidding entity or key personnel who are family members of UNDP staff involved in the procurement functions and/or the Government of the country or any Implementing Partner receiving goods and/or services under this ITB; and b) All other circumstances that could potentially lead to actual or perceived conflict of interest, collusion or unfair competition practices. Failure to disclose such an information may result in the rejection of the Bid or Bids affected by the non-disclosure.
	4.4	The eligibility of Bidders that are wholly or partly owned by the Government shall be subject to UNDP's further evaluation and review of various factors such as being registered, operated and managed as an independent business entity, the extent of Government ownership/share, receipt of subsidies, mandate and access to information in relation to this ITB, among others. Conditions that may lead to undue advantage against other Bidders may result in the eventual rejection of the Bid.
B. PREPARATION OF BIDS		
5. General Considerations	5.1	In preparing the Bid, the Bidder is expected to examine the ITB in detail. Material deficiencies in providing the information requested in the ITB may result in rejection of the Bid.
	5.2	The Bidder will not be permitted to take advantage of any errors or omissions in the ITB. Should such errors or omissions be discovered, the Bidder must notify the UNDP accordingly.
6. Cost of Preparation of Bid	6.1	The Bidder shall bear all costs related to the preparation and/or submission of the Bid, regardless of whether its Bid is selected or not. UNDP shall not be responsible or liable for those costs, regardless of the conduct or outcome of the procurement process.
7. Language	7.1	The Bid, as well as any and all related correspondence exchanged by the Bidder and UNDP, shall be written in the language (s) specified in the BDS.
8. Documents	8.1	The Bid shall comprise of the following documents and related forms which

Comprising the Bid		details are provided in the BDS: a) Documents Establishing the Eligibility and Qualifications of the Bidder; b) Technical Bid; c) Price Schedule; d) Bid Security, if required by BDS; e) Any attachments and/or appendices to the Bid.
9. Documents Establishing the Eligibility and Qualifications of the Bidder	9.1	The Bidder shall furnish documentary evidence of its status as an eligible and qualified vendor, using the Forms provided under Section 6 and providing documents required in those forms. In order to award a contract to a Bidder, its qualifications must be documented to UNDP's satisfaction.
10. Technical Bid Format and Content	10.1	The Bidder is required to submit a Technical Bid using the Standard Forms and templates provided in Section 6 of the ITB.
	10.2	Samples of items, when required as per Section 5, shall be provided within the time specified and unless otherwise specified by the Purchaser, at no expense to the UNDP. If not destroyed by testing, samples will be returned at Bidder's request and expense, unless otherwise specified.
	10.3	When applicable and required as per Section 5, the Bidder shall describe the necessary training programme available for the maintenance and operation of the equipment offered as well as the cost to the UNDP. Unless otherwise specified, such training as well as training materials shall be provided in the language of the Bid as specified in the BDS.
	10.4	When applicable and required as per Section 5, the Bidder shall certify the availability of spare parts for a period of at least five (5) years from date of delivery, or as otherwise specified in this ITB.
11. Price Schedule	11.1	The Price Schedule shall be prepared using the Form provided in Section 6 of the ITB and taking into consideration the requirements in the ITB.
	11.2	Any requirement described in the Technical Bid but not priced in the Price Schedule, shall be assumed to be included in the prices of other activities or items, as well as in the final total price.
12. Bid Security	12.1	A Bid Security, if required by BDS, shall be provided in the amount and form indicated in the BDS. The Bid Security shall be valid for a minimum of thirty (30) days after the final date of validity of the Bid.
	12.2	The Bid Security shall be included along with the Bid. If Bid Security is required by the ITB but is not found in the Bid, the offer shall be rejected.
	12.3	If the Bid Security amount or its validity period is found to be less than what is required by UNDP, UNDP shall reject the Bid.
	12.4	In the event an electronic submission is allowed in the BDS, Bidders shall include a copy of the Bid Security in their bid and the original of the Bid Security must be sent via courier or hand delivery as per the instructions in BDS.
	12.5	The Bid Security may be forfeited by UNDP, and the Bid rejected, in the event of any, or combination, of the following conditions: a) If the Bidder withdraws its offer during the period of the Bid Validity specified in the BDS, or; b) In the event the successful Bidder fails: i. to sign the Contract after UNDP has issued an award; or ii. to furnish the Performance Security, insurances, or other documents that UNDP may require as a condition precedent to the effectivity of

	the contract that may be awarded to the Bidder.
13. Currencies	13.1 All prices shall be quoted in the currency or currencies indicated in the BDS. Where Bids are quoted in different currencies, for the purposes of comparison of all Bids: a) UNDP will convert the currency quoted in the Bid into the UNDP preferred currency, in accordance with the prevailing UN operational rate of exchange on the last day of submission of Bids; and b) In the event that UNDP selects a Bid for award that is quoted in a currency different from the preferred currency in the BDS, UNDP shall reserve the right to award the contract in the currency of UNDP's preference, using the conversion method specified above.
14. Joint Venture, Consortium or Association	14.1 If the Bidder is a group of legal entities that will form or have formed a Joint Venture (JV), Consortium or Association for the Bid, they shall confirm in their Bid that : (i) they have designated one party to act as a lead entity, duly vested with authority to legally bind the members of the JV, Consortium or Association jointly and severally, which shall be evidenced by a duly notarized Agreement among the legal entities, and submitted with the Bid; and (ii) if they are awarded the contract, the contract shall be entered into, by and between UNDP and the designated lead entity, who shall be acting for and on behalf of all the member entities comprising the joint venture. 14.2 After the Deadline for Submission of Bid, the lead entity identified to represent the JV, Consortium or Association shall not be altered without the prior written consent of UNDP. 14.3 The lead entity and the member entities of the JV, Consortium or Association shall abide by the provisions of Clause 9 herein in respect of submitting only one Bid. 14.4 The description of the organization of the JV, Consortium or Association must clearly define the expected role of each of the entities in the joint venture in delivering the requirements of the ITB, both in the Bid and the JV, Consortium or Association Agreement. All entities that comprise the JV, Consortium or Association shall be subject to the eligibility and qualification assessment by UNDP. 14.5 A JV, Consortium or Association in presenting its track record and experience should clearly differentiate between: a) Those that were undertaken together by the JV, Consortium or Association; and b) Those that were undertaken by the individual entities of the JV, Consortium or Association. 14.6 Previous contracts completed by individual experts working privately but who are permanently or were temporarily associated with any of the member firms cannot be claimed as the experience of the JV, Consortium or Association or those of its members, but should only be claimed by the individual experts themselves in their presentation of their individual credentials 14.7 JV, Consortium or Associations are encouraged for high value, multi-sectoral requirements when the spectrum of expertise and resources required may not be available within one firm.
15. Only One Bid	15.1 The Bidder (including the individual members of any Joint Venture) shall submit only one Bid, either in its own name or as part of a Joint Venture. 15.2 Bids submitted by two (2) or more Bidders shall all be rejected if they are found

	to have any of the following: a) they have at least one controlling partner, director or shareholder in common; or b) any one of them receive or have received any direct or indirect subsidy from the other/s; or c) they have the same legal representative for purposes of this ITB; or d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about, or influence on the Bid of another Bidder regarding this ITB process; e) they are subcontractors to each other's Bid, or a subcontractor to one Bid also submits another Bid under its name as lead Bidder; or some key personnel proposed to be in the team of one Bidder participates in more than one Bid received for this ITB process. This condition relating to the personnel, does not apply to subcontractors being included in more than one Bid.
16. Bid Validity Period	16.1 Bids shall remain valid for the period specified in the BDS, commencing on the Deadline for Submission of Bids. A Bid valid for a shorter period may be rejected by UNDP and rendered non-responsive. 16.2 During the Bid validity period, the Bidder shall maintain its original Bid without any change, including the availability of the Key Personnel, the proposed rates and the total price.
17. Extension of Bid Validity Period	17.1 In exceptional circumstances, prior to the expiration of the Bid validity period, UNDP may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing, and shall be considered integral to the Bid. 17.2 If the Bidder agrees to extend the validity of its Bid, it shall be done without any change to the original Bid. 17.3 The Bidder has the right to refuse to extend the validity of its Bid, in which case, the Bid shall not be further evaluated.
18. Clarification of Bid (from the Bidders)	18.1 Bidders may request clarifications on any of the ITB documents no later than the date indicated in the BDS. Any request for clarification must be sent in writing in the manner indicated in the BDS. If inquiries are sent other than specified channel, even if they are sent to a UNDP staff member, UNDP shall have no obligation to respond or confirm that the query was officially received. 18.2 UNDP will provide the responses to clarifications through the method specified in the BDS. 18.3 UNDP shall endeavour to provide responses to clarifications in an expeditious manner, but any delay in such response shall not cause an obligation on the part of UNDP to extend the submission date of the Bids, unless UNDP deems that such an extension is justified and necessary.
19. Amendment of Bids	19.1 At any time prior to the deadline of Bid submission, UNDP may for any reason, such as in response to a clarification requested by a Bidder, modify the ITB in the form of an amendment to the ITB. Amendments will be made available to all prospective bidders. 19.2 If the amendment is substantial, UNDP may extend the Deadline for submission of Bid to give the Bidders reasonable time to incorporate the amendment into their Bids.
20. Alternative Bids	20.1 Unless otherwise specified in the BDS, alternative Bids shall not be considered. If submission of alternative Bid is allowed by BDS, a Bidder may submit an alternative Bid, but only if it also submits a Bid conforming to the ITB

		requirements. Where the conditions for its acceptance are met, or justifications are clearly established, UNDP reserves the right to award a contract based on an alternative Bid. 20.2 If multiple/alternative bids are being submitted, they must be clearly marked as "Main Bid" and "Alternative Bid"
21. Pre-Bid Conference	21.1	When appropriate, a pre-bid conference will be conducted at the date, time and location specified in the BDS. All Bidders are encouraged to attend. Non-attendance, however, shall not result in disqualification of an interested Bidder. Minutes of the Bidder's conference will be disseminated on the procurement website and shared by email or on the e-Tendering platform as specified in the BDS. No verbal statement made during the conference shall modify the terms and conditions of the ITB, unless specifically incorporated in the Minutes of the Bidder's Conference or issued/posted as an amendment to ITB.
C. SUBMISSION AND OPENING OF BIDS		
22. Submission	22.1	The Bidder shall submit a duly signed and complete Bid comprising the documents and forms in accordance with requirements in the BDS. The Price Schedule shall be submitted together with the Technical Bid. Bid can be delivered either personally, by courier, or by electronic method of transmission as specified in the BDS.
	22.2	The Bid shall be signed by the Bidder or person(s) duly authorized to commit the Bidder. The authorization shall be communicated through a document evidencing such authorization issued by the legal representative of the bidding entity, or a Power of Attorney, accompanying the Bid.
	22.3	Bidders must be aware that the mere act of submission of a Bid, in and of itself, implies that the Bidder fully accepts the UNDP General Contract Terms and Conditions.
Hard copy (manual) submission	22.4	Hard copy (manual) submission by courier or hand delivery allowed or specified in the BDS shall be governed as follows: a) The signed Bid shall be marked "Original", and its copies marked "Copy" as appropriate. The number of copies is indicated in the BDS. All copies shall be made from the signed original only. If there are discrepancies between the original and the copies, the original shall prevail. (b) The Technical Bid and Price Schedule must be sealed and submitted together in an envelope, which shall: i. Bear the name of the Bidder; ii. Be addressed to UNDP as specified in the BDS; and iii. Bear a warning not to open before the time and date for Bid opening as specified in the BDS. If the envelope with the Bid is not sealed and marked as required, UNDP shall assume no responsibility for the misplacement, loss, or premature opening of the Bid.
Email and eTendering submissions	22.5	Electronic submission through email or eTendering, if allowed as specified in the BDS, shall be governed as follows: a) Electronic files that form part of the Bid must be in accordance with the format and requirements indicated in BDS; b) Documents which are required to be in original form (e.g. Bid Security, etc.) must be sent via courier or hand delivered as per the instructions in BDS.
	22.6	Detailed instructions on how to submit, modify or cancel a bid in the

		eTendering system are provided in the eTendering system Bidder User Guide and Instructional videos available on this link: http://www.undp.org/content/undp/en/home/operations/procurement/business/procurement-notices/resources/
23. Deadline for Submission of Bids and Late Bids	23.1	Complete Bids must be received by UNDP in the manner, and no later than the date and time, specified in the BDS. UNDP shall only recognise the actual date and time that the bid was received by UNDP
	23.2	UNDP shall not consider any Bid that is received after the deadline for the submission of Bids.
24. Withdrawal, Substitution, and Modification of Bids	24.1	A Bidder may withdraw, substitute or modify its Bid after it has been submitted at any time prior to the deadline for submission.
	24.2	Manual and Email submissions: A bidder may withdraw, substitute or modify its Bid by sending a written notice to UNDP, duly signed by an authorized representative, and shall include a copy of the authorization (or a Power of Attorney). The corresponding substitution or modification of the Bid, if any, must accompany the respective written notice. All notices must be submitted in the same manner as specified for submission of Bids, by clearly marking them as "WITHDRAWAL" "SUBSTITUTION," or "MODIFICATION"
	24.3	eTendering: A Bidder may withdraw, substitute or modify its Bid by Cancelling, Editing, and re-submitting the Bid directly in the system. It is the responsibility of the Bidder to properly follow the system instructions, duly edit and submit a substitution or modification of the Bid as needed. Detailed instructions on how to cancel or modify a Bid directly in the system are provided in the Bidder User Guide and Instructional videos.
	24.4	Bids requested to be withdrawn shall be returned unopened to the Bidders (only for manual submissions), except if the bid is withdrawn after the bid has been opened.
25. Bid Opening	25.1	UNDP will open the Bid in the presence of an ad-hoc committee formed by UNDP of at least two (2) members.
	25.2	The Bidders' names, modifications, withdrawals, the condition of the envelope labels/seals, the number of folders/files and all other such other details as UNDP may consider appropriate, will be announced at the opening. No Bid shall be rejected at the opening stage, except for late submissions, in which case, the Bid shall be returned unopened to the Bidders.
	25.3	In the case of e-Tendering submission, bidders will receive an automatic notification once the Bid is opened.
D. EVALUATION OF BIDS		
26. Confidentiality	26.1	Information relating to the examination, evaluation, and comparison of Bids, and the recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process, even after publication of the contract award.
	26.2	Any effort by a Bidder or anyone on behalf of the Bidder to influence UNDP in the examination, evaluation and comparison of the Bids or contract award decisions may, at UNDP's decision, result in the rejection of its Bid and may subsequently be subject to the application of prevailing UNDP's vendor sanctions procedures.
27. Evaluation of Bids	27.1	UNDP will conduct the evaluation solely on the basis of the Bids received.
	27.2	Evaluation of Bids shall be undertaken in the following steps:

	a) Preliminary Examination including Eligibility b) Arithmetical check and ranking of bidders who passed preliminary examination by price. c) Qualification assessment (if pre-qualification was not done) a) Evaluation of Technical Bids b) Evaluation of prices Detailed evaluation will be focussed on the 3 - 5 lowest priced bids. Further higher priced bids shall be added for evaluation if necessary
28. Preliminary Examination	28.1 UNDP shall examine the Bids to determine whether they are complete with respect to minimum documentary requirements, whether the documents have been properly signed, and whether the Bids are generally in order, among other indicators that may be used at this stage. UNDP reserves the right to reject any Bid at this stage.
29. Evaluation of Eligibility and Qualification	29.1 Eligibility and Qualification of the Bidder will be evaluated against the Minimum Eligibility/Qualification requirements specified in the Section 4 (Evaluation Criteria). 29.2 In general terms, vendors that meet the following criteria may be considered qualified: a) They are not included in the UN Security Council 1267/1989 Committee's list of terrorists and terrorist financiers, and in UNDP's ineligible vendors' list; b) They have a good financial standing and have access to adequate financial resources to perform the contract and all existing commercial commitments, c) They have the necessary similar experience, technical expertise, production capacity, quality certifications, quality assurance procedures and other resources applicable to the supply of goods and/or services required; d) They are able to comply fully with the UNDP General Terms and Conditions of Contract; e) They do not have a consistent history of court/arbitral award decisions against the Bidder; and f) They have a record of timely and satisfactory performance with their clients.
30. Evaluation of Technical Bid and prices	30.1 The evaluation team shall review and evaluate the Technical Bids on the basis of their responsiveness to the Schedule of Requirements and Technical Specifications and other documentation provided, applying the procedure indicated in the BDS and other ITB documents. When necessary, and if stated in the BDS, UNDP may invite technically responsive bidders for a presentation related to their technical Bids. The conditions for the presentation shall be provided in the bid document where required.
31. Due diligence	31.1 UNDP reserves the right to undertake a due diligence exercise, aimed at determining to its satisfaction, the validity of the information provided by the Bidder. Such exercise shall be fully documented and may include, but need not be limited to, all or any combination of the following: a) Verification of accuracy, correctness and authenticity of information provided by the Bidder; b) Validation of extent of compliance to the ITB requirements and evaluation criteria based on what has so far been found by the evaluation team; c) Inquiry and reference checking with Government entities with jurisdiction on the Bidder, or with previous clients, or any other entity that may have done business with the Bidder; d) Inquiry and reference checking with previous clients on the performance on on-going or completed contracts, including physical inspections of

	previous works, as deemed necessary; e) Physical inspection of the Bidder's offices, branches or other places where business transpires, with or without notice to the Bidder; f) Other means that UNDP may deem appropriate, at any stage within the selection process, prior to awarding the contract.
32. Clarification of Bids	32.1 To assist in the examination, evaluation and comparison of Bids, UNDP may, at its discretion, request any Bidder for a clarification of its Bid. 32.2 UNDP's request for clarification and the response shall be in writing and no change in the prices or substance of the Bid shall be sought, offered, or permitted, except to provide clarification, and confirm the correction of any arithmetic errors discovered by UNDP in the evaluation of the Bids, in accordance with the ITB. 32.3 Any unsolicited clarification submitted by a Bidder in respect to its Bid, which is not a response to a request by UNDP, shall not be considered during the review and evaluation of the Bids.
33. Responsiveness of Bid	33.1 UNDP's determination of a Bid's responsiveness will be based on the contents of the bid itself. A substantially responsive Bid is one that conforms to all the terms, conditions, specifications and other requirements of the ITB without material deviation, reservation, or omission. 33.2 If a bid is not substantially responsive, it shall be rejected by UNDP and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation, or omission.
34. Nonconformities, Reparable Errors and Omissions	34.1 Provided that a Bid is substantially responsive, UNDP may waive any non-conformities or omissions in the Bid that, in the opinion of UNDP, do not constitute a material deviation. 34.2 UNDP may request the Bidder to submit the necessary information or documentation, within a reasonable period, to rectify nonmaterial nonconformities or omissions in the Bid related to 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 its Bid. 34.3 For the bids that have passed the preliminary examination, UNDP shall check and correct arithmetical errors as follows: a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of UNDP there is an obvious misplacement of the decimal point in the unit price; in which case, the line item total as quoted shall govern and the unit price shall be corrected; b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail. 34.4 If the Bidder does not accept the correction of errors made by UNDP, its Bid shall be rejected.
E. AWARD OF CONTRACT	
35. Right to Accept,	35.1 UNDP reserves the right to accept or reject any bid, to render any or all of the

Reject, Any or All Bids		bids as non-responsive, and to reject all Bids at any time prior to award of contract, without incurring any liability, or obligation to inform the affected Bidder(s) of the grounds for UNDP's action. UNDP shall not be obliged to award the contract to the lowest priced offer.
36. Award Criteria	36.1	Prior to expiration of the period of Bid validity, UNDP shall award the contract to the qualified and eligible Bidder that is found to be responsive to the requirements of the Schedule of Requirements and Technical Specification, and has offered the lowest price.
37. Debriefing	37.1	In the event that a Bidder is unsuccessful, the Bidder may request for a debriefing from UNDP. The purpose of the debriefing is to discuss the strengths and weaknesses of the Bidder's submission, in order to assist the Bidder in improving its future Bids for UNDP procurement opportunities. The content of other Bids and how they compare to the Bidder's submission shall not be discussed.
38. Right to Vary Requirements at the Time of Award	38.1	At the time of award of Contract, UNDP reserves the right to vary the quantity of goods and/or services, by up to a maximum twenty-five per cent (25%) of the total offer, without any change in the unit price or other terms and conditions.
39. Contract Signature	39.1	Within fifteen (15) days from the date of receipt of the Contract, the successful Bidder shall sign and date the Contract and return it to UNDP. Failure to do so may constitute sufficient grounds for the annulment of the award, and forfeiture of the Bid Security, if any, and on which event, UNDP may award the Contract to the Second highest rated or call for new Bids.
40. Contract Type and General Terms and Conditions	40.1	The types of Contract to be signed and the applicable UNDP Contract General Terms and Conditions, as specified in BDS, can be accessed at http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html
41. Performance Security	41.1	A performance security, if required in the BDS, shall be provided in the amount specified in BDS and form available at https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PSU_Solicitation_Performance%20Guarantee%20Form.docx&action=default within a maximum of fifteen (15) days of the contract signature by both parties. Where a performance security is required, the receipt of the performance security by UNDP shall be a condition for rendering the contract effective.
42. Bank Guarantee for Advanced Payment	42.1	Except when the interests of UNDP so require, it is UNDP's standard practice to not make advance payment(s) (i.e., payments without having received any outputs). If an advance payment is allowed as per the BDS, and exceeds 20% of the total contract price, or USD 30,000, whichever is less, the Bidder shall submit a Bank Guarantee in the full amount of the advance payment in the form available at https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PSU_Contract%20Management%20Payment%20and%20Taxes_Advanced%20Payment%20Guarantee%20Form.docx&action=default
43. Liquidated Damages	43.1	If specified in the BDS, UNDP shall apply Liquidated Damages for the damages and/or risks caused to UNDP resulting from the Contractor's delays or breach of its obligations as per Contract.

44. Payment Provisions	44.1	Payment will be made only upon UNDP's acceptance of the goods and/or services performed. The terms of payment shall be within thirty (30) days, after receipt of invoice and certification of acceptance of goods and/or services issued by the proper authority in UNDP with direct supervision of the Contractor. Payment will be effected by bank transfer in the currency of the contract.
45. Vendor Protest	45.1	UNDP's vendor protest procedure provides an opportunity for appeal to those persons or firms not awarded a contract through a competitive procurement process. In the event that a Bidder believes that it was not treated fairly, the following link provides further details regarding UNDP vendor protest procedures: http://www.undp.org/content/undp/en/home/procurement/business/protest-and-sanctions.html
46. Other Provisions	46.1	In the event that the Bidder offers a lower price to the host Government (e.g. General Services Administration (GSA) of the federal government of the United States of America) for similar goods and/or services, UNDP shall be entitled to the same lower price. The UNDP General Terms and Conditions shall have precedence.
	46.2	UNDP is entitled to receive the same pricing offered by the same Contractor in contracts with the United Nations and/or its Agencies. The UNDP General Terms and Conditions shall have precedence.
	46.3	The United Nations has established restrictions on employment of (former) UN staff who have been involved in the procurement process as per bulletin ST/SGB/2006/15 http://www.un.org/en/ga/search/view_doc.asp?symbol=ST/SGB/2006/15&referer

Section 3. Bid Data Sheet

The following data for the goods and/or services to be procured shall complement, supplement, or amend the provisions in the Invitation to Bid In the case of a conflict between the Instructions to Bidders, the Bid Data Sheet, and other annexes or references attached to the Bid Data Sheet, the provisions in the Bid Data Sheet shall prevail**.**

BDS No.	Ref. to Section.2	Data	Specific Instructions / Requirements
1	7	Language of the Bid	English
2		Submitting Bids for Parts or sub-parts of the Schedule of Requirements (partial bids)	Not Allowed
3	20	Alternative Bids	Shall be considered. A Bidder may submit an alternative Bid, but only if it also submits a Bid that meets the base case (i.e., what is originally required by UNDP in this ITB). Such alternative proposal must be clearly indicated in the submission. UNDP shall only consider the alternative bid offered by the Bidder whose Bid for the base case was determined to be a responsive Bid that offers the lowest price.
4	21	Pre-Bid conference	Will not be conducted
5	16	Bid Validity Period	120 days
6	13	Bid Security	Not Required
7	41	Advanced Payment upon signing of contract	Not Allowed
8	42	Liquidated Damages	Will be imposed as follows: Percentage of contract price per day of delay: 0.5 Max. number of days of delay 20, after which UNDP may terminate the contract.
9	40	Performance Security	Not Required
10	12	Currency of Bid	Euro Chinese Renminbi No payments will be made in United States Dollars.

11	31	Deadline for submitting requests for clarifications/ questions	7 days before the submission deadline
12	31	Contact Details for submitting clarifications/questions	Focal Person in UNDP: Ms. Xiao Yi Address: No2, Liangmahe Nanlu, Beijing E-mail address: bids.china@undp.org
13	18, 19 and 21	Manner of Disseminating Supplemental Information to the ITB and responses/clarifications to queries	Direct communication to prospective Proposers by email and Posting on the website UNGM & UNDP Procurement webpage
14	23	Deadline for Submission	Date and Time: **October 8, 2018 12:00 PM** **Beijing time**
14	22	Allowable Manner of Submitting Bids	☒ Submission by email
15	22	Bid Submission Address	bids.china@undp.org
16	22	Electronic submission (email or eTendering) requirements	▪ Format: PDF files only ▪ File names must be maximum 60 characters long and must not contain any letter or special character other than from Latin alphabet/keyboard. ▪ All files must be free of viruses and not corrupted. ▪ Max. File Size per transmission: 5MB ▪ Mandatory subject of email: UNDP DPRK ITB 2018004 ▪ Password must be set for all your bidding documents ▪ Password must not be provided to UNDP until the date and time of Bid Opening as indicated in No. 17
17	25	Date, time and venue for the opening of bid	Date and Time: **October 8, 2018 2:00 PM** **Beijing time** Venue: UN Large Conference Room, No. 2 Liangmahe Nanlu, Chaoyang District, Beijing
18	27, 36	Evaluation Method for the Award of Contract	Lowest priced technically responsive, eligible and qualified bid.
19		Expected date for commencement of Contract	As soon as possible
20		Maximum expected duration of contract	Will be determined at contract award
21	35	UNDP will award the contract to:	One Proposer Only

22	39	Type of Contract	Contract for Goods and/or Services to UNDP http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html
23	39	UNDP Contract Terms and Conditions that will apply	UNDP General Terms and Conditions for Contracts http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html
24		Delivery Date	*Maximum 4 weeks after contract signature*
25		Other issues pertinent to ITB	Disclaimer: Procurement of items listed in this ITB are subject to, and contingent on, applicable exemption(s) being obtained from the Security Council Committee established pursuant to resolution 1718 (2006).

Section 4. Evaluation Criteria

Preliminary Examination Criteria

Bids will be examined to determine whether they are complete and submitted in accordance with ITB requirements as per below criteria on a Yes/No basis:

- Appropriate signatures
- Power of Attorney
- Minimum Bid documents provided
- Bid Validity

Minimum Eligibility and Qualification Criteria

Eligibility and Qualification will be evaluated on a Pass/Fail basis.

If the Bid is submitted as a Joint Venture/Consortium/Association, each member should meet the minimum criteria, unless otherwise specified.

Subject	Criteria	Document Submission requirement
ELIGIBILITY		
Legal Status	Vendor is a legally registered entity.	Form B: Bidder Information Form
Eligibility	Vendor is not suspended, nor debarred, nor otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization in accordance with ITB clause 3.	Form A: Bid Submission Form
Conflict of Interest	No conflicts of interest in accordance with ITB clause 4.	Form A: Bid Submission Form
Bankruptcy	Has not declared bankruptcy, is not involved in bankruptcy or receivership proceedings, and there is no judgment or pending legal action against the vendor that could impair its operations in the foreseeable future.	Form A: Bid Submission Form
Certificates and Licenses	▪ Duly authorized to act as Agent on behalf of the Manufacturer, or Power of Attorney, if bidder is not a manufacturer ▪ Official appointment as local representative, if Bidder is	Form B: Bidder Information Form

	submitting a Bid on behalf of an entity located outside the country ▪ Patent Registration Certificates, if any of technologies submitted in the Bid is patented by the Bidder ▪ Export/Import Licenses, if applicable	
QUALIFICATION		
History of Non-Performing Contracts[1]	Non-performance of a contract did not occur as a result of contractor default for the last 3 years.	Form D: Qualification Form
Litigation History	No consistent history of court/arbitral award decisions against the Bidder for the last 3 years.	Form D: Qualification Form
Previous Experience	Minimum 3 years of relevant experience.	Form D: Qualification Form
	Minimum 3 contracts of similar value, nature and complexity implemented over the last 3 years. *(For JV/Consortium/Association, all Parties cumulatively should meet requirement).* At least one of the purchase orders / contracts shall be of an amount above U$ 100,000. Each purchase order / contract shall clearly indicate the type and quantities of items and technical specifications, contract amount, date, and customer´s current contact details for references to be sought.	Form D: Qualification Form
Financial Standing	Minimum average annual turnover of USD500,000 for the last 3 years. Quick Ratio (current assets / current liabilities) > 1.0. *(For JV/Consortium/Association, all Parties cumulatively should meet requirement).*	Form D: Qualification Form
	Bidder must demonstrate the current soundness of its financial standing and indicate its prospective long-term profitability. *(For JV/Consortium/Association, all Parties cumulatively should meet requirement).*	Form D: Qualification Form
Technical Evaluation	The technical bids shall be evaluated on a pass/fail basis for compliance or non-compliance with the technical specifications identified in the bid document. Time schedule for supply, transportation, installation, commissioning, documents, inspection test and training	Form E: Technical Bid Form

[1] Non-performance, as decided by UNDP, shall include all contracts where (a) non-performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Non-performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non-performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

	compliance if applicable. Proof of after-sales service capacity and appropriateness of local service and technical support available in DPRK or close by regions. Statement of warranty of defects in materials, workmanship, operation and performance guarantee, backed by the manufacturers guarantee on the main components where applicable.	
Financial Evaluation	Detailed analysis of the price schedule based on requirements listed in Section 5 and quoted for by the bidders in Form F. Price comparison shall be based on the landed price, including transportation, insurance and the total cost of ownership (including spare parts, consumption, installation, commissioning, training, special packaging, etc., where applicable) Comparison with budget/internal estimates.	Form F: Price Schedule Form

Section 5a: Schedule of Requirements and Technical Specifications

All goods will be delivered within 4 weeks after contract signature to 3 SES project sites as follows:

1. Ryongam-Ri, Yangdok County, South Pyongan Province, DPR Korea
2. Sagi-Ri, Yangdok County, South Pyongan Province, DPR Korea
3. Oup (Township), Singye County, North Hwanghae Province, DPR Korea

List of Equipment with Technical Specifications

Lot 1. List of equipment for the small hydropower plant in Ryomgam-Ri

Delivery Site: Ryongam-Ri, Yangdok County, South Pyongan Province, DPR Korea

No	Item	Technical Specification	Unit	Quantity
1	Turbines	Type: Propeller, horizontal, turbine shaft attached directly to generator shaft; Rated Head: 5.0 m; Turbine discharge: 0.64 m^3/s; Installed output: 25 kW; Turbine efficiency at 100% rated capacity: $\eta T \geq 90.0\%$; Runner material: stainless steel;	set	2
2	Governor	Type: Manual & motor drive; Guide vane servomotor closing time: 5s;	set	2
3	Draining Pump	Type: Centrifugal; Inlet diameter: 50 mm; Discharge: 20m^3/h; Pumping head: 25m (must contain the electrical motor)	set	1
4	Chain Brake	Type: chain; Load capacity: 1 t; Lift height: 5 m	set	2
5	Generators	Brush, self-regulated, digital voltage regulation (AVR), horizontal mounted, single shaft with single or double bearing; Gross power output (kW) per generator: 25 kW; Efficiency at rated output (%): $\geq$ 90%; Rated voltage (Volt): 400 V; Frequency (Hz): 60 Hz; Power factor (Cos ϕ): 0.9; Phase & Connection: 3 phases / 4 wires; Mode of excitation: Brush; Insulation class: F	set	2
6	Generator Panel	Indoor type; Rated system voltage: 0.4 kV; Rated voltage: 380 V; Rated frequency: 60 Hz; - Circuit breaker Type: Indoor, three phase; Number of circuit breaker: 1(one); Rated voltage: 0.4 kV; Rated current: 70 A; Rated breaking current: 40 kA; Rated frequency: 60 Hz; Rated insulation level(1min): 2.5 kV; Number of close-open: $\geq$ 20,000 times; - Disconnector Type: Indoor, three phase; Quantity: 1 (one); Rated voltage: 0.4 kV; Rated current: 100A; Rated breaking current: 40 kA; - Current transformer Type: Indoor; Quantity: 3 (three); Rate current: Rated primary current 50 A, Rated secondary current 5 A; Rate voltage: 0.4kV; Accuracy: Measuring windings 0.5 - Voltage transformer	set	2

No	Item	Technical Specification	Unit	Quantity
		Type: Indoor; Quantity: 3(three); Rate voltage: Rated primary voltage 400V, Rated secondary voltage 100/1.414 V; Number of secondary winding: 2; Accuracy: 0.5; - Surge arrester Type: Indoor; Quantity: 1(one)set (=3pcs); Rated voltage: 500 V; - Generator measurement and protection device Type: Indoor, digital; Quantity: 1 (one); Rated voltage: 0.4 kV; Measuring system: Measuring of A.C current (A) and A.C voltage (V), Measuring of active (W) and reactive (VAr), Measuring of frequency(Hz), Measuring of active energy (Wh); Protection system(Over current protection with two steps Over voltage protection of Generator, Under voltage protection of Generator, Overload protection of Stator, Rotor earth fault, Stator earth fault, Under frequency protection, Excitation circuit earth fault, Loss of excitation) will be considered at the detailed design stage; - Synchro-put in device (auto synchronic device) Voltage: 0.4kV; Frequency: 60Hz		
7	Excitation Panel (install into the generator panel)	Indoor type, thyristor mode - Excitation transformer Type: indoor, dry; Quantity:1(one); Primary voltage: 0.4 kV; - Excitation current transformer Type: Indoor; Quantity: 3(three); Rate current : Rated primary current 50A, Rated secondary current: 5A; Rate voltage: 0.4kV; Accuracy: Measuring windings 0.5; - Voltage transformer Type: Indoor; Number of voltage transformer: 2(two); Rated voltage: 0.4 kV/100V;	set	2
8	0.4 kV/0.22kV Power Panel	Type: Indoor, multi-switch; Rated voltage (kV): 0.4kV/0.22kV; Current transformer: 2(two); Number of current transformer; Rate current: Rated primary current 20A, Rated secondary current 5A; Rate voltage: 0.4 kV; Accuracy pf measuring windings: 0.5; Measuring windings: Number of circuit: 3 phase-5 pcs, single phase-10pcs	set	2
9	Step-up Transformer	Type: Indoor, dry; Quantity: 1(one); Primary voltage: 3.3 kV; Secondary voltage: 0.4 kV; Capacity: S=63 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12	no	1
10	High-Voltage Box-1	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200 A; - High-fuse Type: Indoor; Quantity: 3(three); Rated voltage: 3.3 kV; Rated current: 31.5 A; - Current transformer Type: Indoor; Quantity: 3(three); Rated current: Rated primary current 15A, Rated secondary current 5 A; Rated voltage: 3.3 kV; Accuracy: Measuring windings 0.5;	set	1
11	Step-down Transformer	Type: Indoor, dry; Quantity: 1(one); Primary voltage: 3.3 kV; Secondary voltage: 0.4 kV; Capacity: S=63 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12	no	1

No	Item	Technical Specification	Unit	Quantity
12	High-Voltage Box-2	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200 A; - High-fuse Type: Indoor; Quantity: 3(three); Rated voltage: 3.3 kV; Rated current: 31.5 A; - Current transformer Type: Indoor; Quantity: 3(three); Rated current: Rated primary current 15A, Rated secondary current 5 A; Rated voltage: 3.3 kV; Accuracy: Measuring windings 0.5;	set	1
13	High-Voltage Box-3	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200 A; - High-fuse Type: Indoor; Quantity: 3(three); Rated voltage: 3.3 kV; Rated current: 31.5 A; -Surge arrester Type: Indoor; Quantity: 1(one)set-3pcs; Rated voltage: 3.3 kV - Voltage transformer Type: Indoor; Quantity: 3(three); Rate voltage: Rated primary voltage 3.3 kV, Rated secondary voltage: 100/1.717V; Number of Secondary winding: 2; Accuracy: 0.5;	set	1
14	Disconnector	Outdoor; Rated voltage: 3.3kV; Rated current: 3 phase 250A	no	1
15	Device to regulate the load	3 phase; Power: 25kW; Control method: Auto control	set	2
16	AD converter (install into the power panel)	2 kVA (Input: DC24V, Output AC220V)	no	1
17	Battery (install into the power panel)	Voltage: 12V; Capacity: 180Ah	pc	2

Lot 2. List of equipment for the small hydropower plant in Sagi-Ri

Delivery Site: Sagi-Ri, Yangdok County, South Pyongan Province, DPR Korea

No	Item	Technical Specification	Unit	Quantity
1	Turbines	Type: Propeller, horizontal, turbine shaft attached directly to generator shaft; Rated Head: 3.5 m; Turbine discharge: 1.82 m^3/s; Installed output: 50 kW; Turbine efficiency at 100% rated capacity: $\eta T \geq 90.0\%$; Runner material: stainless steel;	set	2
2	Governor	Type: Manual & motor drive; Guide vane servomotor closing time: 5s;	set	2
3	Draining Pump	Type: Centrifugal; Inlet diameter: 50 mm; Discharge: 20m^3/h; Pumping head: 25m; Must contain the electrical motor	set	1
4	Chain Brake	Type: chain; Load capacity: 1 t; Lift height: 5 m	set	2

No	Item	Technical Specification	Unit	Quantity
5	Generators	Brush, self-regulated, digital voltage regulation (AVR), horizontal mounted, single shaft with single or double bearing; Gross power output (kW) per generator: 50 kW; Efficiency at rated output (%): ≥ 90%; Rated voltage (Volt): 400 V; Frequency (Hz): 60 Hz; Power factor (Cos ϕ): 0.9; Phase & Connection: 3 phases / 4 wires; Mode of excitation: Brush; Insulation class: F;	set	2
6	Generator Panel	Indoor type; Rated system voltage: 0.4 kV; Rated frequency: 60 Hz; - Circuit breaker Type: Indoor, three phase; Number of circuit breaker: 1(one); Rated voltage: 0.4 kV; Rated current: 200 A; Rated breaking current: 20 kA; Rated frequency: 60 Hz; Rated insulation level(1min): 2.5 kV; Number of close-open: ≥ 20,000 times; - Disconnector Type: Indoor, three phase; Quantity: 1(one); Rated voltage: 0.4 kV; Rated current: 200A; Rated breaking current: 40 kA; - Current transformer Type: Indoor; Quantity: 3(three); Rate current: Rated primary current 100 A, Rated secondary current 5 A; Rate voltage: 0.4kV; Accuracy of the Measuring windings 0.5 - Voltage transformer Type: Indoor; Quantity: 3(three); Rate voltage: Rated primary voltage 400V, Rated secondary voltage 100V; Number of secondary winding: 2; Accuracy: 0.5; - Surge arrester Type: Indoor; Quantity: 1(one)set (=3pcs); Rated voltage: 500 V; Method of neutral grounding: Directly grounded; Rate discharge current : 5 kA; Single impulse energy capability: 2.5 kJ/kV; Maximum residual voltage with current wave: 30 kV; - Generator measurement and protection device Type: Indoor, digital; Quantity: 1(one); Rated voltage: 0.4 kV; Measuring system: Measuring of A.C current (A) and A.C voltage (V), Measuring of active (W) and reactive (VAr), Measuring of frequency(Hz), Measuring of active energy (Wh); Protection system(Over current protection with two steps, Over voltage protection of Generator, Under voltage protection of Generator, Overload protection of Stator, Rotor earth fault, Stator earth fault, Under frequency protection, Excitation circuit earth fault, Loss of excitation) will be considered at the detailed design stage; - Synchro-put in device(auto synchronic device) Voltage:0.4kV;Frequency:60Hz	set	2
7	Excitation Panel (will be installed into the generator panel)	Indoor type, thyristor mode - Excitation transformer Type: indoor, dry; Quantity:1(one); Primary voltage: 0.4 kV; - Excitation current transformer Type: Indoor; Quantity: 3(three); Rate current : Rated primary current 100A, Rated secondary current: 5A; Rate voltage: 0.4kV; Accuracy: Measuring windings 0.5; - Voltage transformer Type: Indoor; Number of voltage transformer: 2(two); Rated voltage: 0.4 kV/100V;	set	2

No	Item	Technical Specification	Unit	Quantity
8	0.4 kV/0.22kV Power Panel	Type: Indoor, multi-switch; Rated voltage (kV): 0.4kV/0.22kV; Current transformer: 2(two) Number of current transformer; Rate current: Rated primary current 20A, Rated secondary current 5A; Rate voltage: 0.4 kV; Accuracy: 0.5; Number of circuit: three phase- 5 pcs, single phase-10pcs	set	2
9	Step-up Transformer	Type: Indoor, dry; Quantity: 1(one); Primary voltage: 3.3 kV; Secondary voltage: 0.4 kV; Capacity: S=125 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12	set	1
10	Step-down Transformer (Sagi Ri)	Type: Indoor, dry; Quantity: 1(one); Primary voltage: 3.3 kV; Secondary voltage: 0.4 kV; Capacity: S=125 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12;	set	1
11	Step-down Transformer (Tongdong Ri)	Type: Indoor, dry; Quantity: 1(one); Primary voltage: 3.3 kV; Secondary voltage: 0.4 kV; Capacity: S=10 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12;	set	1
12	High-Voltage Box-1	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200A; - High-fuse Type: Indoor; Quantity: 3(three); Rated voltage: 3.3 kV; Rated current: 31.5 A; - Current transformer Type: Indoor; Quantity: 3(three); Rated current : Rated primary current 15A, Rated secondary current 5 A; Rated voltage: 3.3 kV; Accuracy: Measuring windings 0.5; - Measurement device Voltage meter(3pcs),Current meter(1pcs),Power meter(1pcs),Frequency meter(1pcs): according to capacity of transformer and voltage range - Surge arrester Type:indoor,dry;Quantity:1(one)set-3pcs;Rated voltage:3.3kV	set	1
13	High-Voltage Box-2	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200A; - High-fuse Type: Indoor; Quantity: 3(three); Rated voltage: 3.3 kV; Rated current: 31.5 A; - Current transformer Type: Indoor; Quantity: 3(three); Rated current: Rated primary current 15A, Rated secondary current 5 A; Rated voltage: 3.3 kV; Burden: 30 VA; Accuracy: Measuring windings 0.5, Protecting windings 5P10;	set	1
14	High-Voltage Box-3	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200A; - High-fuse Type: Indoor; Quantity: 6(six); Rated voltage: 3.3 kV; Rated current: 31.5 A; -Surge arrester Type: Indoor; Quantity: 1(one)set-3pcs; Rated voltage: 3.3 kV - Voltage transformer Type: Indoor; Quantity: 3(three); Rate voltage: Rated primary voltage 3.3 kV, Rated secondary voltage: 100V; Number of Secondary winding: 2; Accuracy: 0.5;	set	1
15	Device to regulate the load	Phase: 3; Power: 50kW; Control method: auto control	set	2
16	Disconnector	Type: outdoor; Rated voltage: 3.3kV; Rated current: 3 phase 250A	no	1
17	AD converter (install into the power panel)	2kVA; (Input: DC 24V, Output: AC 220V)	no	1
18	Battery (install into the power panel)	Voltage: 12V; Capacity: 180Ah	pc	2

Lot 3. List of equipment for the small hydropower plant in Singye Oup

Delivery Site: Oup (Township), Singye County, North Hwanghae Province, DPR Korea

No	Item	Technical Specification	Unit	Quantity
1	Turbines	Type: Propeller, horizontal, turbine shaft attached directly to generator shaft; Rated Head: 2.0 m; Turbine discharge(m^3/s): 1.29 m^3/s; Installed output: 20 kW; Turbine efficiency at 100% rated capacity: ηT ≥ 90.0%; Runner material: stainless steel;	set	2
2	Governor	Type: Manual & motor drive; Guide vane servomotor closing time: 5s;	set	2
3	Draining Pump	Type: Centrifugal; Inlet diameter: 50 mm; Discharge: 20m^3/h; Pumping head: 25m; (must contain the electrical motor)	set	1
4	Chain Brake	Type: chain; Load capacity: 1 t; Lift height: 5 m	set	2
5	Generators	Brush, self-regulated, digital voltage regulation (AVR), horizontal mounted, single shaft with single or double bearing; Gross power output (kW) per generator: 20 kW; Efficiency at rated output (%): ≥ 90%; Rated voltage (Volt): 400 V; Frequency (Hz): 60 Hz; Power factor (Cos ϕ): 0.9; Phase & Connection: 3 phases / 4 wires; Mode of excitation: Brush; Insulation class: F;	set	2
6	Generator Panel	Indoor type; Rated system voltage: 0.4 kV; Rated voltage: 380 V; Rated frequency: 60 Hz; - Circuit breaker Type: Indoor, three phase; Number of circuit breaker: 1(one); Rated voltage: 0.4 kV; Rated current: 70 A; Rated breaking current: 40 kA; Rated frequency: 60 Hz; Rated insulation level(1min): 2.5 kV; Number of close-open: ≥ 20,000 times; - Disconnector Type: Indoor, three phase; Quantity: 1(one); Rated voltage: 0.4 kV; Rated current: 200A; Rated breaking current: 40 kA; - Current transformer Type: Indoor; Quantity: 3(three); Rate current: Rated primary current 50 A, Rated secondary current 5 A; Rate voltage: 0.4kV; Accuracy: Measuring windings 0.5; - Voltage transformer Type: Indoor; Quantity: 3(three); Rate voltage: Rated primary voltage 400V, Rated secondary voltage 100V; Number of secondary winding: 2; Accuracy: 0.5; - Surge arrester Type: Indoor; Quantity: 1(one)set (=3pcs); Rated voltage: 500 V; Method of neutral grounding: Directly grounded; Rate discharge current : 5 kA; Single impulse energy capability: 2.5 kJ/kV; Maximum residual voltage with current wave: 30 kV; - Generator measurement and protection device Type: Indoor, digital; Quantity: 1(one); Rated voltage: 0.4 kV; Measuring system: Measuring of A.C current (A) and A.C voltage (V), Measuring of active (W) and reactive (VAr), Measuring of frequency(Hz), Measuring of active energy (Wh); Protection system(Over current protection with two steps, Over voltage	set	2

No	Item	Technical Specification	Unit	Quantity
		protection of Generator, Under voltage protection of Generator, Overload protection of Stator, Rotor earth fault, Stator earth fault, Under frequency protection, Excitation circuit earth fault, Loss of excitation) will be considered at the detailed design stage; - Synchro-put in device Voltage:0.4kV;Frequency:60Hz		
7	Excitation Panel (install into the generator panel)	Indoor type, thyristor mode - Excitation transformer Type: indoor, dry; Quantity:1(one); Primary voltage: 0.4 kV; Secondary voltage: to be suitable to the generator; Connection mode: Y/Δ; - Excitation current transformer Type: Indoor; Quantity: 3(three); Rate current : Rated primary current 50 A, Rated secondary current: 5A; Rate voltage: 0.4kV; Accuracy: Measuring windings 0.5; - Voltage transformer Type: Indoor; Number of voltage transformer: 2(two); Rated voltage: 0.4 kV/100V;	set	2
8	Transformer	Type: Indoor, dry; Primary voltage: 0.4 kV; Secondary voltage: 0.38/0.22kV; Capacity: S=50 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12;	set	1
9	0.4 kV/0.22kV Power Panel	Type: Indoor, multi-switch; Rated voltage (kV): 0.4kV/0.22kV; Current transformer: 2(two) Number of current transformer; Rate current: Rated primary current 20A, Rated secondary current 5A; Rate voltage: 0.4 kV;	set	2
10	Device to regulate the load	Phase: 3; Power: 50kW; Control method: auto control	set	2
11	Auto switch	Voltage: 500V; Current: 200A	no	2
12	AD converter (install into the power panel)	2kVA; (Input: DC 24V, Output: AC 220V)	no	1
13	Battery (install into the power panel)	Voltage: 12V; Capacity: 180Ah	pc	2

Disclaimer: Procurement of items listed in this ITB are subject to, and contingent on, applicable exemption(s) being obtained from the Security Council Committee established pursuant to resolution 1718 (2006).

Section 5b: Other Related Requirements

Further to the Schedule of Requirements in the preceding Table, Bidders are requested to take note of the following additional requirements, conditions, and related services pertaining to the fulfillment of the requirements:

Delivery Term [INCOTERMS 2010] *(Pls. link this to price schedule)*	DAP, 3 project sites in DPRK
Exact Address of Delivery/Installation Location	1. Ryongam-Ri, Yangdok County, South Pyongan Province, DPRK 2. Sagi-Ri, Yangdok County, South Pyongan Province, DPRK 3. Oup (Township), Singye County, North Hwanghae Province, DPRK
Mode of Transport Preferred	Land or Sea
UNDP Preferred Freight Forwarder, if any[2]	N/A
Distribution of shipping documents *(if using freight forwarder)*	N/A
Customs, if required, clearing shall be done by:	Supplier
Ex-factory / Pre-shipment inspection	N/A
Inspection upon delivery	UNDP designated staff and experts will conduct the inspection and certify delivery
Installation Requirements	Installation shall be completed by the Supplier using in-kind contribution by local workforce.
Testing Requirements	Testing shall be completed by the Supplier
Scope of Training on Operation and Maintenance	Shall be completed by the Supplier
Commissioning	Shall be completed by the Supplier
Warranty Period	Minimum 2 years
Local Service Support	N/A
Technical Support Requirements	Manual (in English) for installation, testing, commissioning, operation and maintenance
After-sale services Requirements	☒ Warranty on Parts and Labor for minimum period of 2 years ☒ Technical Support ☒ Provision of Service Unit when pulled out for maintenance /repair ☐ Others *[pls. specify]*
Payment Terms *(max. advanced payment is 20% as per UNDP policy)*	100% within 30 days upon UNDP's acceptance of the goods delivered as specified and receipt of invoice

[2] *A factor of the Incoterms stipulated in the ITB. The use of a UNDP preferred freight forwarder may be considered for purposes of ensuring forwarder's familiarity with procedures and processing of documentary requirements applicable to UNDP when clearing with customs authority of the country of destination.*

Conditions for Release of Payment	☐ Pre-shipment inspection ☒ Inspection upon arrival at destination ☒ Installation ☒ Testing ☒ Training on Operation and Maintenance ☐ Others *[pls. specify]* ☒ Written Acceptance of Goods based on full compliance with ITB requirements
All documentations, including catalogues, instructions and operating manuals, shall be in this language	English

Section 6: Returnable Bidding Forms / Checklist

This form serves as a checklist for preparation of your Bid. Please complete the Returnable Bidding Forms in accordance with the instructions in the forms and return them as part of your Bid submission. No alteration to format of forms shall be permitted and no substitution shall be accepted.

Before submitting your Bid, please ensure compliance with the Bid Submission instructions of the BDS 16.

Technical Bid:

Have you duly completed all the Returnable Bidding Forms?	
▪ Form A: Bid Submission Form	☒
▪ Form B: Bidder Information Form	☒
▪ Form C: Joint Venture/Consortium/ Association Information Form	☒
▪ Form D: Qualification Form	☒
▪ Form E: Format of Technical Bid/Bill of Quantities	☒
Have you provided the required documents to establish compliance with the evaluation criteria in Section 4?	☒

Price Schedule:

▪ Form F: Price Schedule Form	☒

Form A: Bid Submission Form

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date
ITB reference:	[Insert ITB Reference Number]		

We, the undersigned, offer to supply the goods and related services required for [Insert Title of goods and services] in accordance with your Invitation to Bid No. [Insert ITB Reference Number] and our Bid. We hereby submit our Bid, which includes this Technical Bid and Price Schedule.

Our attached Price Schedule is for the sum of [Insert amount in words and figures and indicate currency].

We hereby declare that our firm, its affiliates or subsidiaries or employees, including any JV/Consortium /Association members or subcontractors or suppliers for any part of the contract:

a) is not under procurement prohibition by the United Nations, including but not limited to prohibitions derived from the Compendium of United Nations Security Council Sanctions Lists;

b) have not been suspended, debarred, sanctioned or otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization;

c) have no conflict of interest in accordance with Instruction to Bidders Clause 4;

d) do not employ, or anticipate employing, any person(s) who is, or has been a UN staff member within the last year, if said UN staff member has or had prior professional dealings with our firm in his/her capacity as UN staff member within the last three years of service with the UN (in accordance with UN post-employment restrictions published in ST/SGB/2006/15);

e) have not declared bankruptcy, are not involved in bankruptcy or receivership proceedings, and there is no judgment or pending legal action against them that could impair their operations in the foreseeable future;

f) undertake not to engage in proscribed practices, including but not limited to corruption, fraud, coercion, collusion, obstruction, or any other unethical practice, with the UN or any other party, and to conduct business in a manner that averts any financial, operational, reputational or other undue risk to the UN and we embrace the principles of the United Nations Supplier Code of Conduct and adhere to the principles of the United Nations Global Compact.

We declare that all the information and statements made in this Bid are true and we accept that any misinterpretation or misrepresentation contained in this Bid may lead to our disqualification and/or sanctioning by the UNDP.

We offer to supply the goods and related services in conformity with the Bidding documents, including the UNDP General Conditions of Contract and in accordance with the Schedule of Requirements and Technical Specifications.

Our Bid shall be valid and remain binding upon us for the period specified in the Bid Data Sheet.

We understand and recognize that you are not bound to accept any Bid you receive.

I, the undersigned, certify that I am duly authorized by [Insert Name of Bidder] to sign this Bid and bind it should UNDP accept this Bid.

Name: _____

Title: _____

Date: _____

Signature: _____

[*Stamp with official stamp of the Bidder*]

Form B: Bidder Information Form

Legal name of Bidder	[Complete]
Legal address	[Complete]
Year of registration	[Complete]
Bidder's Authorized Representative Information	Name and Title: [Complete] Telephone numbers: [Complete] Email: [Complete]
Are you a UNGM registered vendor?	☐ Yes ☐ No If yes, [insert UGNM vendor number]
Are you a UNDP vendor?	☐ Yes ☐ No If yes, [insert UNDP vendor number]
Countries of operation	[Complete]
No. of full-time employees	[Complete]
Quality Assurance Certification (e.g. ISO 9000 or Equivalent) *(If yes, provide a Copy of the valid Certificate):*	[Complete]
Does your Company hold any accreditation such as ISO 14001 or ISO 14064 or equivalent related to the environment? *(If yes, provide a Copy of the valid Certificate):*	[Complete]
Does your Company have a written Statement of its Environmental Policy? *(If yes, provide a Copy)*	[Complete]
Does your organization demonstrates significant commitment to sustainability through some other means, for example internal company policy documents on women empowerment, renewable energies or membership of trade institutions promoting such issues	[Complete]
Is your company a member of the UN Global Compact	[Complete]
Contact person that UNDP may contact for requests for clarifications during Bid evaluation	Name and Title: [Complete] Telephone numbers: [Complete] Email: [Complete]
Please attach the following documents:	▪ Company Profile, which should <u>not</u> exceed fifteen (15) pages, including printed brochures and product catalogues relevant to the goods and/or services being procured ▪ Certificate of Incorporation/ Business Registration

	▪ Tax Registration/Payment Certificate issued by the Internal Revenue Authority evidencing that the Bidder is updated with its tax payment obligations, or Certificate of Tax exemption, if any such privilege is enjoyed by the Bidder ▪ Trade name registration papers, if applicable ▪ Quality Certificate (e.g., ISO, etc.) and/or other similar certificates, accreditations, awards and citations received by the Bidder, if any ▪ Environmental Compliance Certificates, Accreditations, Markings/Labels, and other evidences of the Bidder's practices which contributes to the ecological sustainability and reduction of adverse environmental impact (e.g., use of non-toxic substances, recycled raw materials, energy-efficient equipment, reduced carbon emission, etc.), either in its business practices or in the goods it manufactures ▪ Patent Registration Certificates, if any of technologies submitted in the Bid is patented by the Bidder ▪ Certification or authorization to act as Agent on behalf of the Manufacturer, or Power of Attorney. ▪ Export Licenses, if applicable ▪ Local Government permit to locate and operate in assignment location, if applicable ▪ Official Letter of Appointment as local representative, if Bidder is submitting a Bid on behalf of an entity located outside the country

Form C: Joint Venture/Consortium/Association Information Form

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date
ITB reference:	[Insert ITB Reference Number]		

To be completed and returned with your Bid if the Bid is submitted as a Joint Venture/Consortium/Association.

No	**Name of Partner and contact information** *(address, telephone numbers, fax numbers, e-mail address)*	**Proposed proportion of responsibilities (in %) and type of goods and/or services to be performed**
1	[Complete]	[Complete]
2	[Complete]	[Complete]
3	[Complete]	[Complete]

Name of leading partner (with authority to bind the JV, Consortium, Association during the ITB process and, in the event a Contract is awarded, during contract execution)	[Complete]

We have attached a copy of the below referenced document signed by every partner, which details the likely legal structure of and the confirmation of joint and severable liability of the members of the said joint venture:

☐ Letter of intent to form a joint venture ***OR*** ☐ JV/Consortium/Association agreement

We hereby confirm that if the contract is awarded, all parties of the Joint Venture/Consortium/Association shall be jointly and severally liable to UNDP for the fulfillment of the provisions of the Contract.

Name of partner: _____ Name of partner: _____

Signature: _____ Signature: _____

Date: _____ Date: _____

Name of partner: _____ Name of partner: _____

Signature: _____ Signature: _____

Date: _____ Date: _____

Form D: Eligibility and Qualification Form

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date

ITB reference:	[Insert ITB Reference Number]

If JV/Consortium/Association, to be completed by each partner.

History of Non- Performing Contracts

☐Non-performing contracts did not occur during the last 3 years
☐ Contract(s) not performed in the last 3 years

Year	Non- performed portion of contract	Contract Identification	Total Contract Amount (current value in US$)
		Name of Client: Address of Client: Reason(s) for non-performance:	

Litigation History (including pending litigation)

☐ No litigation history for the last 3 years
☐ Litigation History as indicated below

Year of dispute	Amount in dispute (in US$)	Contract Identification	Total Contract Amount (current value in US$)
		Name of Client: Address of Client: Matter in dispute: Party who initiated the dispute: Status of dispute: Party awarded if resolved:	

Previous Relevant Experience

Please list only previous similar assignments successfully completed in the last 3 years.

List only those assignments for which the Bidder was legally contracted or sub-contracted by the Client as a company or was one of the Consortium/JV partners. Assignments completed by the Bidder's individual experts working privately or through other firms cannot be claimed as the relevant experience of the Bidder, or that of the Bidder's partners or sub-consultants, but can be claimed by the Experts themselves in their CVs. The Bidder should be prepared to substantiate the claimed experience by presenting copies of relevant documents and references if so requested by UNDP.

Project name & Country of Assignment	Client & Reference Contact Details	Contract Value	Period of activity and status	Types of activities undertaken

Bidders may also attach their own Project Data Sheets with more details for assignments above.

☐ Attached are the Statements of Satisfactory Performance from the Top 3 (three) Clients or more.

Financial Standing

Annual Turnover for the last 3 years	Year Year Year	USD USD USD
Latest Credit Rating (if any), indicate the source		

Financial information (in US$ equivalent)	**Historic information for the last 3 years**		
	Year 1	Year 2	Year 3
	Information from Balance Sheet		
Total Assets (TA)			
Total Liabilities (TL)			
Current Assets (CA)			
Current Liabilities (CL)			
	Information from Income Statement		
Total / Gross Revenue (TR)			
Profits Before Taxes (PBT)			
Net Profit			
Current Ratio			

☐ Attached are copies of the audited financial statements (balance sheets, including all related notes, and income statements) for the years required above complying with the following condition:

a) Must reflect the financial situation of the Bidder or party to a JV, and not sister or parent companies;
b) Historic financial statements must be audited by a certified public accountant;
c) Historic financial statements must correspond to accounting periods already completed and audited. No statements for partial periods shall be accepted.

Form E: Format of Technical Bid

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date
ITB reference:	[Insert ITB Reference Number]		

The Bidder's Bid should be organized to follow this format of the Technical Bid. Where the bidder is presented with a requirement or asked to use a specific approach, the bidder must not only state its acceptance, but also describe how it intends to comply with the requirements. Where a descriptive response is requested, failure to provide the same will be viewed as non-responsive.

SECTION 1: Bidder's qualification, capacity and expertise

1.1 General organizational capability which is likely to affect implementation: management structure, financial stability and project financing capacity, project management controls, extent to which any work would be subcontracted (if so, provide details).

1.2 Relevance of specialized knowledge and experience on similar engagements done in the region/country.

1.3 Quality assurance procedures and risk mitigation measures.

1.4 Organization's commitment to sustainability.

SECTION 2: Scope of Supply, Technical Specifications, and Related Services

This section should demonstrate the Bidder's responsiveness to the specification by identifying the specific components proposed, addressing the requirements, as specified, point by point; providing a detailed description of the essential performance characteristics proposed; and demonstrating how the proposed bid meets or exceeds the requirements/specifications. All important aspects should be addressed in sufficient detail.

2.1 A detailed description of how the Bidder will deliver the required goods and services, keeping in mind the appropriateness to local conditions and project environment. Details how the different service elements shall be organized, controlled and delivered.

2.2 Explain whether any work would be subcontracted, to whom, how much percentage of the requirements, the rationale for such, and the roles of the proposed sub-contractors and how everyone will function as a team.

2.3 The bid shall also include details of the Bidder's internal technical and quality assurance review mechanisms.

2.4 Implementation plan including a Gantt Chart or Project Schedule indicating the detailed sequence of activities that will be undertaken and their corresponding timing.

2.5 Demonstrate how you plan to integrate sustainability measures in the execution of the contract.

Goods and services to be Supplied and Technical Specifications			Your response				
			Compliance with technical specifications		Delivery Date	Quality Certificate / Export Licenses, etc.	Comments
			Yes, we comply	**No, we cannot comply** *(indicate discrepancies)*	*(confirm that you comply or indicate your delivery date)*	**Export Licenses, etc.** *(indicate all that apply and attach)*	
Lot 1, Delivery Site: Ryongam-Ri, Yangdok County, South Pyongan Province, DPR Korea							
No	**Item**	**Technical Specification**					
1	Turbines	Type: Propeller, horizontal, turbine shaft attached directly to generator shaft; Rated Head: 5.0 m; Turbine discharge: 0.64 m^3/s; Installed output: 25 kW; Turbine efficiency at 100% rated capacity: $\eta T \geq 90.0\%$; Runner material: stainless steel;					
2	Governor	Type: Manual & motor drive; Guide vane servomotor closing time: 5s;					
3	Draining Pump	Type: Centrifugal; Inlet diameter: 50 mm; Discharge: $20m^3/h$; Pumping head: 25m (must contain the electrical motor)					
4	Chain Brake	Type: chain; Load capacity: 1 t; Lift height: 5 m					
5	Generators	Brush, self-regulated, digital voltage regulation (AVR), horizontal mounted, single shaft with single or double bearing; Gross power output (kW) per generator: 25 kW; Efficiency at rated output (%): $\geq$ 90%; Rated voltage (Volt): 400 V; Frequency (Hz): 60 Hz; Power factor (Cos ϕ): 0.9; Phase & Connection: 3 phases / 4 wires; Mode of excitation: Brush; Insulation class: F					
6	Generator Panel	Indoor type; Rated system voltage: 0.4 kV; Rated voltage: 380 V; Rated frequency: 60 Hz; - Circuit breaker Type: Indoor, three phase; Number of circuit breaker: 1(one);					

Goods and services to be Supplied and Technical Specifications			Your response				
			Compliance with technical specifications		Delivery Date	Quality Certificate / Export Licenses, etc. *(indicate all that apply and attach)*	Comments
			Yes, we comply	**No, we cannot comply** *(indicate discrepancies)*	*(confirm that you comply or indicate your delivery date)*		
		Rated voltage: 0.4 kV; Rated current: 70 A; Rated breaking current: 40 kA; Rated frequency: 60 Hz; Rated insulation level(1min): 2.5 kV; Number of close-open: ≥ 20,000 times; - Disconnector Type: Indoor, three phase; Quantity: 1 (one); Rated voltage: 0.4 kV; Rated current: 100A; Rated breaking current: 40 kA; - Current transformer Type: Indoor; Quantity: 3 (three); Rate current: Rated primary current 50 A, Rated secondary current 5 A; Rate voltage: 0.4kV; Accuracy: Measuring windings 0.5 - Voltage transformer Type: Indoor; Quantity: 3(three); Rate voltage: Rated primary voltage 400V, Rated secondary voltage 100/1.414 V; Number of secondary winding: 2; Accuracy: 0.5; - Surge arrester Type: Indoor; Quantity: 1(one)set (=3pcs); Rated voltage: 500 V; - Generator measurement and protection device Type: Indoor, digital; Quantity: 1(one); Rated voltage: 0.4 kV; Measuring system: Measuring of A.C current (A) and A.C voltage (V), Measuring of active (W) and reactive (VAr), Measuring of frequency(Hz), Measuring of active energy (Wh); Protection system(Over current protection with two steps Over voltage protection of Generator, Under voltage protection of Generator, Overload protection of Stator, Rotor earth fault, Stator earth fault, Under frequency protection, Excitation circuit earth fault, Loss of excitation) will be considered at the detailed design stage; - Synchro-put in device (auto synchronic device) Voltage: 0.4kV;Frequency:60Hz					
7	Excitation Panel (install into the	Indoor type, thyristor mode - Excitation transformer Type: indoor, dry; Quantity:1(one); Primary voltage: 0.4 kV;					

Goods and services to be Supplied and Technical Specifications			Your response				
			Compliance with technical specifications		Delivery Date	Quality Certificate / Export Licenses, etc. *(indicate all that apply and attach)*	Comments
			Yes, we comply	**No, we cannot comply** *(indicate discrepancies)*	*(confirm that you comply or indicate your delivery date)*		
	generator panel)	- Excitation current transformer Type: Indoor; Quantity: 3(three); Rate current : Rated primary current 50A, Rated secondary current: 5A; Rate voltage: 0.4kV; Accuracy: Measuring windings 0.5; - Voltage transformer Type: Indoor; Number of voltage transformer: 2(two); Rated voltage: 0.4 kV/100V;					
8	0.4 kV/0.22kV Power Panel	Type: Indoor, multi-switch; Rated voltage (kV): 0.4kV/0.22kV; Current transformer: 2(two); Number of current transformer; Rate current: Rated primary current 20A, Rated secondary current 5A; Rate voltage: 0.4 kV; Accuracy pf measuring windings: 0.5; Measuring windings: Number of circuit: 3 phase-5 pcs, single phase-10pcs					
9	Step-up Transformer	Type: Indoor, dry; Quantity: 1(one); Primary voltage: 3.3 kV; Secondary voltage: 0.4 kV; Capacity: S=63 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12					
10	High-Voltage Box-1	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200 A; - High-fuse Type: Indoor; Quantity: 3(three); Rated voltage: 3.3 kV; Rated current: 31.5 A; - Current transformer Type: Indoor; Quantity: 3(three); Rated current: Rated primary current 15A, Rated secondary current 5 A; Rated voltage: 3.3 kV; Accuracy: Measuring windings 0.5;					
11	Step-down Transformer	Type: Indoor, dry; Quantity: 1(one); Primary voltage: 3.3 kV; Secondary voltage: 0.4 kV; Capacity: S=63 kVA; Frequency: 60 Hz; Connection					

Goods and services to be Supplied and Technical Specifications			Your response				
			Compliance with technical specifications		Delivery Date	Quality Certificate / Export Licenses, etc. *(indicate all that apply and attach)*	Comments
			Yes, we comply	**No, we cannot comply** *(indicate discrepancies)*	*(confirm that you comply or indicate your delivery date)*		
		mode: Y/Yo-12					
12	High-Voltage Box-2	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200 A; - High-fuse Type: Indoor; Quantity: 3(three); Rated voltage: 3.3 kV; Rated current: 31.5 A; - Current transformer Type: Indoor; Quantity: 3(three); Rated current: Rated primary current 15A, Rated secondary current 5 A; Rated voltage: 3.3 kV; Accuracy: Measuring windings 0.5;					
13	High-Voltage Box-3	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200 A; - High-fuse Type: Indoor; Quantity: 3(three); Rated voltage: 3.3 kV; Rated current: 31.5 A; -Surge arrester Type: Indoor; Quantity: 1(one)set-3pcs; Rated voltage: 3.3 kV - Voltage transformer Type: Indoor; Quantity: 3(three); Rate voltage: Rated primary voltage 3.3 kV, Rated secondary voltage: 100/1.717V; Number of Secondary winding: 2; Accuracy: 0.5;					
14	Disconnector	Outdoor; Rated voltage: 3.3kV; Rated current: 3 phase 250A					
15	Device to regulate the load	3 phase; Power: 25kW; Control method: Auto control					
16	AD converter (install into the power panel)	2 kVA (Input: DC24V, Output AC220V)					
17	Battery (install into the power	Voltage: 12V; Capacity: 180Ah					

Goods and services to be Supplied and Technical Specifications			Your response				
			Compliance with technical specifications		Delivery Date	Quality Certificate / Export Licenses, etc. *(indicate all that apply and attach)*	Comments
			Yes, we comply	**No, we cannot comply** *(indicate discrepancies)*	*(confirm that you comply or indicate your delivery date)*		
	panel)						
Lot 2, Delivery Site: Sagi-Ri, Yangdok County, South Pyongan Province, DPR Korea							
No	**Item**	**Technical Specification**					
1	Turbines	Type: Propeller, horizontal, turbine shaft attached directly to generator shaft; Rated Head: 3.5 m; Turbine discharge: 1.82 m^3/s; Installed output: 50 kW; Turbine efficiency at 100% rated capacity: $\eta T \geq 90.0\%$; Runner material: stainless steel;					
2	Governor	Type: Manual & motor drive; Guide vane servomotor closing time: 5s;					
3	Draining Pump	Type: Centrifugal; Inlet diameter: 50 mm; Discharge: 20m^3/h; Pumping head: 25m; Must contain the electrical motor					
4	Chain Brake	Type: chain; Load capacity: 1 t; Lift height: 5 m					
5	Generators	Brush, self-regulated, digital voltage regulation (AVR), horizontal mounted, single shaft with single or double bearing; Gross power output (kW) per generator: 50 kW; Efficiency at rated output (%): ≥ 90%; Rated voltage (Volt): 400 V; Frequency (Hz): 60 Hz; Power factor (Cos ϕ): 0.9; Phase & Connection: 3 phases / 4 wires; Mode of excitation: Brush; Insulation class: F;					
6	Generator Panel	Indoor type; Rated system voltage: 0.4 kV; Rated frequency: 60 Hz; - Circuit breaker Type: Indoor, three phase; Number of circuit breaker: 1(one); Rated voltage: 0.4 kV; Rated current: 200 A; Rated breaking current: 20 kA;					

Goods and services to be Supplied and Technical Specifications			Your response				
			Compliance with technical specifications		Delivery Date	Quality Certificate / Export Licenses, etc. *(indicate all that apply and attach)*	Comments
			Yes, we comply	**No, we cannot comply** *(indicate discrepancies)*	*(confirm that you comply or indicate your delivery date)*		
		Rated frequency: 60 Hz; Rated insulation level(1min): 2.5 kV; Number of close-open: ≥ 20,000 times; - Disconnector Type: Indoor, three phase; Quantity: 1(one); Rated voltage: 0.4 kV; Rated current: 200A; Rated breaking current: 40 kA; - Current transformer Type: Indoor; Quantity: 3(three); Rate current: Rated primary current 100 A, Rated secondary current 5 A; Rate voltage: 0.4kV; Accuracy of the Measuring windings 0.5 - Voltage transformer Type: Indoor; Quantity: 3(three); Rate voltage: Rated primary voltage 400V, Rated secondary voltage 100V; Number of secondary winding: 2; Accuracy: 0.5; - Surge arrester Type: Indoor; Quantity: 1(one)set (=3pcs); Rated voltage: 500 V; Method of neutral grounding: Directly grounded; Rate discharge current : 5 kA; Single impulse energy capability: 2.5 kJ/kV; Maximum residual voltage with current wave: 30 kV; - Generator measurement and protection device Type: Indoor, digital; Quantity: 1(one); Rated voltage: 0.4 kV; Measuring system: Measuring of A.C current (A) and A.C voltage (V), Measuring of active (W) and reactive (VAr), Measuring of frequency (Hz), Measuring of active energy (Wh); Protection system(Over current protection with two steps, Over voltage protection of Generator, Under voltage protection of Generator, Overload protection of Stator, Rotor earth fault, Stator earth fault, Under frequency protection, Excitation circuit earth fault, Loss of excitation) will be considered at the detailed design stage; - Synchro-put in device(auto synchronic device) Voltage:0.4kV;Frequency:60Hz					

Goods and services to be Supplied and Technical Specifications			Your response				
			Compliance with technical specifications		Delivery Date	Quality Certificate / Export Licenses, etc. *(indicate all that apply and attach)*	Comments
			Yes, we comply	**No, we cannot comply** *(indicate discrepancies)*	*(confirm that you comply or indicate your delivery date)*		
7	Excitation Panel (will be installed into the generator panel)	Indoor type, thyristor mode - Excitation transformer Type: indoor, dry; Quantity:1(one);Primary voltage: 0.4 kV; - Excitation current transformer Type: Indoor; Quantity: 3(three); Rate current : Rated primary current 100A, Rated secondary current: 5A; Rate voltage: 0.4kV; Accuracy: Measuring windings 0.5; - Voltage transformer Type: Indoor; Number of voltage transformer: 2(two); Rated voltage: 0.4 kV/100V;					
8	0.4 kV/0.22kV Power Panel	Type: Indoor, multi-switch; Rated voltage (kV): 0.4kV/0.22kV; Current transformer: 2(two) Number of current transformer; Rate current: Rated primary current 20A, Rated secondary current 5A; Rate voltage: 0.4 kV; Accuracy: 0.5; Number of circuit: three phase- 5 pcs, single phase-10pcs					
9	Step-up Transformer	Type: Indoor, dry; Quantity: 1(one); Primary voltage: 3.3 kV; Secondary voltage: 0.4 kV; Capacity: S=125 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12					
10	Step-down Transformer (Sagi Ri)	Type: Indoor, dry; Quantity: 1(one); Primary voltage: 3.3 kV; Secondary voltage: 0.4 kV; Capacity: S=125 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12;					
11	Step-down Transformer (Tongdong Ri)	Type: Indoor, dry; Quantity: 1(one); Primary voltage: 3.3 kV; Secondary voltage: 0.4 kV; Capacity: S=10 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12;					
12	High-Voltage Box-1	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200A; - High-fuse Type: Indoor; Quantity: 3(three); Rated voltage: 3.3 kV; Rated current: 31.5 A;					

Goods and services to be Supplied and Technical Specifications			Your response				
			Compliance with technical specifications		Delivery Date	Quality Certificate / Export Licenses, etc. *(indicate all that apply and attach)*	Comments
			Yes, we comply	**No, we cannot comply** *(indicate discrepancies)*	*(confirm that you comply or indicate your delivery date)*		
		- Current transformer Type: Indoor; Quantity: 3(three); Rated current : Rated primary current 15A, Rated secondary current 5 A; Rated voltage: 3.3 kV; Accuracy: Measuring windings 0.5; - Measurement device Voltage meter(3pcs),Current meter(1pcs),Power meter(1pcs),Frequency meter(1pcs): according to capacity of transformer and voltage range - Surge arrester Type:indoor,dry;Quantity:1(one)set-3pcs;Rated voltage:3.3kV					
13	High-Voltage Box-2	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200A; - High-fuse Type: Indoor; Quantity: 3(three); Rated voltage: 3.3 kV; Rated current: 31.5 A; - Current transformer Type: Indoor; Quantity: 3(three); Rated current: Rated primary current 15A, Rated secondary current 5 A; Rated voltage: 3.3 kV; Burden: 30 VA; Accuracy: Measuring windings 0.5, Protecting windings 5P10;					
14	High-Voltage Box-3	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200A; - High-fuse Type: Indoor; Quantity: 6(six); Rated voltage: 3.3 kV; Rated current: 31.5 A; -Surge arrester Type: Indoor; Quantity: 1(one)set-3pcs; Rated voltage: 3.3 kV - Voltage transformer Type: Indoor; Quantity: 3(three);Rate voltage: Rated primary voltage 3.3 kV, Rated secondary voltage: 100V; Number of Secondary winding: 2; Accuracy: 0.5;					
15	Device to regulate the	Phase: 3; Power: 50kW; Control method: auto control					

Goods and services to be Supplied and Technical Specifications			Your response				
			Compliance with technical specifications		Delivery Date	Quality Certificate / Export Licenses, etc. *(indicate all that apply and attach)*	Comments
			Yes, we comply	**No, we cannot comply** *(indicate discrepancies)*	*(confirm that you comply or indicate your delivery date)*		
	load						
16	Disconnector	Type: outdoor; Rated voltage: 3.3kV; Rated current: 3 phase 250A					
17	AD converter (install into the power panel)	2kVA; (Input: DC 24V, Output: AC 220V)					
18	Battery (install into the power panel)	Voltage: 12V; Capacity: 180Ah					
Lot 3, Delivery Site: Oup (Township), Singye County, North Hwanghae Province, DPR Korea							
No	**Item**	**Technical Specification**					
1	Turbines	Type: Propeller, horizontal, turbine shaft attached directly to generator shaft; Rated Head: 2.0 m; Turbine discharge(m3/s): 1.29 m^3/s; Installed output: 20 kW; Turbine efficiency at 100% rated capacity: $\eta T \geq 90.0\%$; Runner material: stainless steel;					
2	Governor	Type: Manual & motor drive; Guide vane servomotor closing time: 5s;					
3	Draining Pump	Type: Centrifugal; Inlet diameter: 50 mm; Discharge: 20m^3/h; Pumping head: 25m; (must contain the electrical motor)					
4	Chain Brake	Type: chain; Load capacity: 1 t; Lift height: 5 m					
5	Generators	Brush, self-regulated, digital voltage regulation (AVR), horizontal mounted, single shaft with single or double bearing; Gross power output (kW) per generator: 20 kW; Efficiency at rated output (%): ≥ 90%; Rated voltage (Volt): 400 V; Frequency (Hz): 60 Hz; Power factor(Cos ϕ): 0.9;					

Goods and services to be Supplied and Technical Specifications			Your response				
			Compliance with technical specifications		Delivery Date	Quality Certificate / Export Licenses, etc. *(indicate all that apply and attach)*	Comments
			Yes, we comply	**No, we cannot comply** *(indicate discrepancies)*	*(confirm that you comply or indicate your delivery date)*		
		Phase & Connection: 3 phases / 4 wires; Mode of excitation: Brush; Insulation class: F;					
6	Generator Panel	Indoor type; Rated system voltage: 0.4 kV; Rated voltage: 380 V; Rated frequency: 60 Hz; - Circuit breaker Type: Indoor, three phase; Number of circuit breaker: 1(one); Rated voltage: 0.4 kV; Rated current: 70 A; Rated breaking current: 40 kA; Rated frequency: 60 Hz; Rated insulation level(1min): 2.5 kV; Number of close-open: ≥ 20,000 times; - Disconnector Type: Indoor, three phase; Quantity: 1(one); Rated voltage: 0.4 kV; Rated current: 200A; Rated breaking current: 40 kA; - Current transformer Type: Indoor; Quantity: 3(three); Rate current: Rated primary current 50 A, Rated secondary current 5 A; Rate voltage: 0.4kV; Accuracy: Measuring windings 0.5; - Voltage transformer Type: Indoor; Quantity: 3(three); Rate voltage: Rated primary voltage 400V, Rated secondary voltage 100V; Number of secondary winding: 2; Accuracy: 0.5; - Surge arrester Type: Indoor; Quantity: 1(one)set (=3pcs); Rated voltage: 500 V; Method of neutral grounding: Directly grounded; Rate discharge current : 5 kA; Single impulse energy capability: 2.5 kJ/kV; Maximum residual voltage with current wave: 30 kV; - Generator measurement and protection device Type: Indoor, digital; Quantity: 1(one); Rated voltage: 0.4 kV; Measuring system: Measuring of A.C current (A) and A.C voltage (V), Measuring of active (W) and reactive (VAr), Measuring of frequency(Hz), Measuring of active					

Goods and services to be Supplied and Technical Specifications			Your response				
			Compliance with technical specifications		Delivery Date	Quality Certificate / Export Licenses, etc. *(indicate all that apply and attach)*	Comments
			Yes, we comply	**No, we cannot comply** *(indicate discrepancies)*	*(confirm that you comply or indicate your delivery date)*		
		energy (Wh); Protection system(Over current protection with two steps, Over voltage protection of Generator, Under voltage protection of Generator, Overload protection of Stator, Rotor earth fault, Stator earth fault, Under frequency protection, Excitation circuit earth fault, Loss of excitation) will be considered at the detailed design stage; - Synchro-put in device Voltage:0.4kV;Frequency:60Hz					
7	Excitation Panel (install into the generator panel)	Indoor type, thyristor mode - Excitation transformer Type: indoor, dry; Quantity:1(one);Primary voltage: 0.4 kV; Secondary voltage: to be suitable to the generator; Connection mode: Y/Δ; - Excitation current transformer Type: Indoor; Quantity: 3(three); Rate current : Rated primary current 50 A, Rated secondary current: 5A; Rate voltage: 0.4kV; Accuracy: Measuring windings 0.5; - Voltage transformer Type: Indoor; Number of voltage transformer: 2(two); Rated voltage: 0.4 kV/100V;					
8	Transformer	Type: Indoor, dry; Primary voltage: 0.4 kV; Secondary voltage: 0.38/0.22kV; Capacity: S=50 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12;					
9	0.4 kV/0.22kV Power Panel	Type: Indoor, multi-switch; Rated voltage (kV): 0.4kV/0.22kV; Current transformer: 2(two) Number of current transformer; Rate current: Rated primary current 20A, Rated secondary current 5A; Rate voltage: 0.4 kV;					
10	Device to regulate the load	Phase: 3; Power: 50kW; Control method: auto control					
11	Auto switch	Voltage: 500V; Current: 200A					
12	AD converter	2kVA; (Input: DC 24V, Output: AC 220V)					

Goods and services to be Supplied and Technical Specifications			Your response				
			Compliance with technical specifications		**Delivery Date**	**Quality Certificate / Export Licenses, etc.** *(indicate all that apply and attach)*	**Comments**
			Yes, we comply	**No, we cannot comply** *(indicate discrepancies)*	*(confirm that you comply or indicate your delivery date)*		
	(install into the power panel)						
13	Battery (install into the power panel)	Voltage: 12V; Capacity: 180Ah					

Other Related services and requirements *(based on the information provided in Section 5b)*	**Compliance with requirements**		**Details or comments on the related requirements**
	Yes, we comply	**No, we cannot comply** *(indicate discrepancies)*	
Delivery Term-DAP, 3 project sites in DPRK			
Warranty			
Installation			
Testing			
Training on operation and maintenance			
Commissioning			

SECTION 3: Management Structure and Key Personnel

3.1 Describe the overall management approach toward planning and implementing the project. Include an organization chart for the management of the project describing the relationship of key positions and designations. Provide a spreadsheet to show the activities of each personnel and the time allocated for his/her involvement.

3.2 Provide CVs for key personnel that will be provided to support the implementation of this project using the format below. CVs should demonstrate qualifications in areas relevant to the scope of goods and/or services.

Format for CV of Proposed Key Personnel

Name of Personnel	[Insert]
Position for this assignment	[Insert]
Nationality	[Insert]
Language proficiency	[Insert]
Education/ Qualifications	*[Summarize college/university and other specialized education of personnel member, giving names of schools, dates attended, and degrees/qualifications obtained.]*
	[Insert]
Professional certifications	*[Provide details of professional certifications relevant to the scope of goods and/or services]*
	▪ Name of institution: [Insert] ▪ Date of certification: [Insert]
Employment Record/ Experience	*[List all positions held by personnel (starting with present position, list in reverse order), giving dates, names of employing organization, title of position held and location of employment. For experience in last five years, detail the type of activities performed, degree of responsibilities, location of assignments and any other information or professional experience considered pertinent for this assignment.]*
	[Insert]
References	*[Provide names, addresses, phone and email contact information for two (2) references]*

	Reference 1: [Insert] Reference 2: [Insert]

I, the undersigned, certify that to the best of my knowledge and belief, the data provided above correctly describes my qualifications, my experiences, and other relevant information about myself.

_____ _____

Signature of Personnel Date (Day/Month/Year)

FORM F: Price Schedule Form

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date
ITB reference:	[Insert ITB Reference Number]		

The Bidder is required to prepare the Price Schedule following the below format. The Price Schedule must include a detailed cost breakdown of all goods and related services to be provided. Separate figures must be provided for each functional grouping or category, if any.

Any estimates for cost-reimbursable items, such as travel of experts and out-of-pocket expenses, should be listed separately.

Currency of the Bid: [Insert Currency]

Price Schedule

The format shown on the following pages is should be used in preparing the Price Schedule.

A) Breakdown cost of items per Lot

B) Total Cost Per LOT (DAP):

C) Cost breakdown for Technical service:

A) Breakdown cost of items per Lot

Lot 1. List of equipment for the small hydropower plant in Ryomgam-Ri

Delivery Site: Ryongam-Ri, Yangdok County, South Pyongan Province, DPR Korea

No	Item	Technical Specification	Unit	Qty	Price	
					Unit	Total
1	Turbines	Type: Propeller, horizontal, turbine shaft attached directly to generator shaft; Rated Head: 5.0 m; Turbine discharge: 0.64 m^3/s; Installed output: 25 kW; Turbine efficiency at 100% rated capacity: $\eta T \geq 90.0\%$; Runner material: stainless steel;	set	2		
2	Governor	Type: Manual & motor drive; Guide vane servomotor closing time: 5s;	set	2		
3	Draining Pump	Type: Centrifugal; Inlet diameter: 50 mm; Discharge: 20m^3/h; Pumping head: 25m (must contain the electrical motor)	set	1		
4	Chain Brake	Type: chain; Load capacity: 1 t; Lift height: 5 m	set	2		
5	Generators	Brush, self-regulated, digital voltage regulation (AVR), horizontal mounted, single shaft with single or double bearing; Gross power output (kW) per generator: 25 kW; Efficiency at rated output (%): $\geq$ 90%; Rated voltage (Volt): 400 V; Frequency (Hz): 60 Hz; Power factor(Cos ϕ): 0.9;	set	2		

No	Item	Technical Specification	Unit	Qty	Price	
					Unit	Total
		Phase & Connection: 3 phases / 4 wires; Mode of excitation: Brush; Insulation class: F				
6	Generator Panel	Indoor type; Rated system voltage: 0.4 kV; Rated voltage: 380 V; Rated frequency: 60 Hz; - Circuit breaker Type: Indoor, three phase; Number of circuit breaker: 1(one); Rated voltage: 0.4 kV; Rated current: 70 A; Rated breaking current: 40 kA; Rated frequency: 60 Hz; Rated insulation level(1min): 2.5 kV; Number of close-open: $\geq$ 20,000 times; - Disconnector Type: Indoor, three phase; Quantity: 1 (one); Rated voltage: 0.4 kV; Rated current: 100A; Rated breaking current: 40 kA; - Current transformer Type: Indoor; Quantity: 3(three); Rate current: Rated primary current 50 A, Rated secondary current 5 A; Rate voltage: 0.4kV; Accuracy: Measuring windings 0.5 - Voltage transformer Type: Indoor; Quantity: 3(three); Rate voltage: Rated primary voltage 400V, Rated secondary voltage 100/1.414 V; Number of secondary winding: 2; Accuracy: 0.5; - Surge arrester Type: Indoor; Quantity: 1(one)set (=3pcs); Rated voltage: 500 V; - Generator measurement and protection device Type: Indoor, digital; Quantity: 1(one); Rated voltage: 0.4 kV; Measuring system: Measuring of A.C current (A) and A.C voltage (V), Measuring of active (W) and reactive (VAr), Measuring of frequency(Hz), Measuring of active energy (Wh); Protection system(Over current protection with two steps Over voltage protection of Generator, Under voltage protection of Generator, Overload protection of Stator, Rotor earth fault, Stator earth fault, Under frequency protection, Excitation circuit earth fault, Loss of excitation) will be considered at the detailed design stage; - Synchro-put in device (auto synchronic device) Voltage:0.4kV;Frequency:60Hz	set	2		
7	Excitation Panel (install into the generator panel)	Indoor type, thyristor mode - Excitation transformer Type: indoor, dry; Quantity:1(one);Primary voltage: 0.4 kV; - Excitation current transformer Type: Indoor; Quantity: 3(three); Rate current : Rated primary current 50A, Rated secondary current: 5A; Rate voltage: 0.4kV; Accuracy: Measuring windings 0.5; - Voltage transformer Type: Indoor; Number of voltage transformer: 2(two); Rated voltage: 0.4 kV/100V;	set	2		
8	0.4 kV/0.22kV Power Panel	Type: Indoor, multi-switch; Rated voltage (kV): 0.4kV/0.22kV; Current transformer: 2(two);	set	2		

No	Item	Technical Specification	Unit	Qty	Price	
					Unit	Total
		Number of current transformer; Rate current: Rated primary current 20A, Rated secondary current 5A; Rate voltage: 0.4 kV; Accuracy pf measuring windings: 0.5; Measuring windings: ; Number of circuit: 3 phase-5 pcs, single phase-10pcs;				
9	Step-up Transformer	Type: Indoor, dry; Quantity: 1(one); Primary voltage: 3.3 kV; Secondary voltage: 0.4 kV; Capacity: S=63 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12	no	1		
10	High-Voltage Box-1	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200 A; - High-fuse Type: Indoor; Quantity: 3(three); Rated voltage: 3.3 kV; Rated current: 31.5 A; - Current transformer Type: Indoor; Quantity: 3(three); Rated current : Rated primary current 15A, Rated secondary current 5 A; Rated voltage: 3.3 kV; Accuracy: Measuring windings 0.5;	set	1		
11	Step-down Transformer	Type: Indoor, dry; Quantity: 1(one); Primary voltage: 3.3 kV; Secondary voltage: 0.4 kV; Capacity: S=63 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12	no	1		
12	High-Voltage Box-2	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200 A; - High-fuse Type: Indoor; Quantity: 3(three); Rated voltage: 3.3 kV; Rated current: 31.5 A; - Current transformer Type: Indoor; Quantity: 3(three); Rated current: Rated primary current 15A, Rated secondary current 5 A; Rated voltage: 3.3 kV; Accuracy: Measuring windings 0.5;	set	1		
13	High-Voltage Box-3	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200 A; - High-fuse Type: Indoor; Quantity: 3(three); Rated voltage: 3.3 kV; Rated current: 31.5 A; -Surge arrester Type: Indoor; Quantity: 1(one)set-3pcs; Rated voltage: 3.3 kV - Voltage transformer Type: Indoor; Quantity: 3(three); Rate voltage: Rated primary voltage 3.3 kV, Rated secondary voltage: 100/1.717V; Number of Secondary winding: 2; Accuracy: 0.5;	set	1		
14	Disconnector	Outdoor; Rated voltage: 3.3kV; Rated current: 3 phase 250A	no	1		
15	Device to regulate the load	3 phase; Power: 25kW; Control method: Auto control	set	2		
16	AD converter (install into the	2KVA (Input: DC24V, Output AC220V)	no	1		

No	Item	Technical Specification	Unit	Qty	Price	
					Unit	Total
	power panel)					
17	Battery (install into the power panel)	Voltage: 12V; capacity: 180Ah	pc	2		

Lot 2. List of equipment for the small hydropower plant in Sagi-Ri

Delivery Site: Sagi-Ri, Yangdok County, South Pyongan Province, DPR Korea

No	Item	Technical Specification	Unit	Qty	Price	
					Unit	Total
1	Turbines	Type: Propeller, horizontal, turbine shaft attached directly to generator shaft; Rated Head: 3.5 m; Turbine discharge: 1.82 m^3/s; Installed output: 50 kW; Turbine efficiency at 100% rated capacity: $\eta T \geq 90.0\%$; Runner material: stainless steel;	set	2		
2	Governor	Type: Manual & motor drive; Guide vane servomotor closing time: 5s;	set	2		
3	Draining Pump	Type: Centrifugal; Inlet diameter: 50 mm; Discharge: 20m^3/h; Pumping head: 25m; Must contain the electrical motor	set	1		
4	Chain Brake	Type: chain; Load capacity: 1 t; Lift height: 5 m	set	2		
5	Generators	Brush, self-regulated, digital voltage regulation (AVR), horizontal mounted, single shaft with single or double bearing; Gross power output (kW) per generator: 50 kW; Efficiency at rated output (%): ≥ 90%; Rated voltage (Volt): 400 V; Frequency (Hz): 60 Hz; Power factor(Cos ϕ): 0.9; Phase & Connection: 3 phases / 4 wires; Mode of excitation: Brush; Insulation class: F;	set	2		
6	Generator Panel	Indoor type; Rated system voltage: 0.4 kV; Rated frequency: 60 Hz; - Circuit breaker Type: Indoor, three phase; Number of circuit breaker: 1(one); Rated voltage: 0.4 kV; Rated current: 200 A; Rated breaking current: 20 kA; Rated frequency: 60 Hz; Rated insulation level(1min): 2.5 kV; Number of close-open: ≥ 20,000 times; - Disconnector Type: Indoor, three phase; Quantity: 1(one); Rated voltage: 0.4 kV; Rated current: 200A; Rated breaking current: 40 kA; - Current transformer Type: Indoor; Quantity: 3(three); Rate current: Rated primary current 100 A, Rated secondary current 5 A; Rate voltage: 0.4kV; Accuracy of the Measuring windings 0.5 - Voltage transformer Type: Indoor; Quantity: 3(three); Rate voltage: Rated primary voltage 400V, Rated secondary voltage	set	2		

No	Item	Technical Specification	Unit	Qty	Price	
					Unit	Total
		100V; Number of secondary winding: 2; Accuracy: 0.5; - Surge arrester Type: Indoor; Quantity: 1(one)set (=3pcs); Rated voltage: 500 V; Method of neutral grounding: Directly grounded; Rate discharge current : 5 kA; Single impulse energy capability: 2.5 kJ/kV; Maximum residual voltage with current wave: 30 kV; - Generator measurement and protection device Type: Indoor, digital; Quantity: 1(one); Rated voltage: 0.4 kV; Measuring system: Measuring of A.C current (A) and A.C voltage (V), Measuring of active (W) and reactive (VAr), Measuring of frequency(Hz), Measuring of active energy (Wh); Protection system(Over current protection with two steps, Over voltage protection of Generator, Under voltage protection of Generator, Overload protection of Stator, Rotor earth fault, Stator earth fault, Under frequency protection, Excitation circuit earth fault, Loss of excitation) will be considered at the detailed design stage; - Synchro-put in device(auto synchronic device) Voltage:0.4kV;Frequency:60Hz				
7	Excitation Panel (will be installed into the generator panel)	Indoor type, thyristor mode - Excitation transformer Type: indoor, dry; Quantity:1(one);Primary voltage: 0.4 kV; - Excitation current transformer Type: Indoor; Quantity: 3(three); Rate current : Rated primary current 100A, Rated secondary current: 5A; Rate voltage: 0.4kV; Accuracy: Measuring windings 0.5; - Voltage transformer Type: Indoor; Number of voltage transformer: 2(two); Rated voltage: 0.4 kV/100V;	set	2		
8	0.4 kV/0.22kV Power Panel	Type: Indoor, multi-switch; Rated voltage (kV): 0.4kV/0.22kV; Current transformer: 2(two) Number of current transformer; Rate current: Rated primary current 20A, Rated secondary current 5A; Rate voltage: 0.4 kV; Accuracy: 0.5; Number of circuit: three phase- 5 pcs, single phase-10pcs	set	2		
9	Step-up Transformer	Type: Indoor, dry; Quantity: 1(one); Primary voltage: 3.3 kV; Secondary voltage: 0.4 kV; Capacity: S=125 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12	set	1		
10	Step-down Transformer (Sagi Ri)	Type: Indoor, dry; Quantity: 1(one); Primary voltage: 3.3 kV; Secondary voltage: 0.4 kV; Capacity: S=125 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12;	set	1		
11	Step-down Transformer (Tongdong Ri)	Type: Indoor, dry; Quantity: 1(one); Primary voltage: 3.3 kV; Secondary voltage: 0.4 kV; Capacity: S=10 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12;	set	1		
12	High-Voltage Box-1	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200A; - High-fuse Type: Indoor; Quantity: 3(three); Rated voltage: 3.3 kV; Rated current: 31.5 A; - Current transformer Type: Indoor; Quantity: 3(three); Rated current : Rated primary current 15A, Rated secondary current 5	set	1		

No	Item	Technical Specification	Unit	Qty	Price	
					Unit	Total
		A; Rated voltage: 3.3 kV; Accuracy: Measuring windings 0.5; - Measurement device Voltage meter(3pcs),Current meter(1pcs),Power meter(1pcs),Frequency meter(1pcs): according to capacity of transformer and voltage range - Surge arrester Type:indoor,dry;Quantity:1(one)set-3pcs;Rated voltage:3.3kV				
13	High-Voltage Box-2	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200A; - High-fuse Type: Indoor; Quantity: 3(three); Rated voltage: 3.3 kV; Rated current: 31.5 A; - Current transformer Type: Indoor; Quantity: 3(three); Rated current: Rated primary current 15A, Rated secondary current 5 A; Rated voltage: 3.3 kV; Burden: 30 VA; Accuracy: Measuring windings 0.5, Protecting windings 5P10;	set	1		
14	High-Voltage Box-3	- Disconnector Type: Indoor; Quantity: 1(one); Rated voltage: 3.3 kV; Rated current: 200A; - High-fuse Type: Indoor; Quantity: 6(six); Rated voltage: 3.3 kV; Rated current: 31.5 A; -Surge arrester Type: Indoor; Quantity: 1(one)set-3pcs; Rated voltage: 3.3 kV - Voltage transformer Type: Indoor; Quantity: 3(three);Rate voltage: Rated primary voltage 3.3 kV, Rated secondary voltage: 100V; Number of Secondary winding: 2; Accuracy: 0.5;	set	1		
15	Device to regulate the load	Phase: 3; Power: 50kW; Control method: auto control	set	2		
16	Disconnector	Type: outdoor; Rated voltage: 3.3kV; Rated current: 3 phase 250A	no	1		
17	AD converter (install into the power panel)	2kVA; (Input: DC 24V, Output: AC 220V)	no	1		
18	Battery (install into the power panel)	Voltage: 12V; Capacity: 180Ah	pc	2		

Lot 3. List of equipment for the small hydropower plant in Singye Oup

Delivery Site: Oup (Township), Singye County, North Hwanghae Province, DPR Korea

No	Item	Technical Specification	Unit	Qty	Price	
					Unit	Total
1	Turbines	Type: Propeller, horizontal, turbine shaft attached directly to generator shaft;; Rated Head: 2.0 m; Turbine discharge(m3/s): 1.29 m^3/s; Installed output: 20 kW; Turbine efficiency at 100% rated capacity: $\eta T \geq 90.0\%$;	set	2		

No	Item	Technical Specification	Unit	Qty	Price	
					Unit	Total
		Runner material: stainless steel;				
2	Governor	Type: Manual & motor drive; Guide vane servomotor closing time: 5s;	set	2		
3	Draining Pump	Type: Centrifugal; Inlet diameter: 50 mm; Discharge: 20m^3/h; Pumping head: 25m; (must contain the electrical motor)	set	1		
4	Chain Brake	Type: chain; Load capacity: 1 t; Lift height: 5 m	set	2		
5	Generators	Brush, self-regulated, digital voltage regulation (AVR), horizontal mounted, single shaft with single or double bearing; Gross power output (kW) per generator: 20 kW; Efficiency at rated output (%): ≥ 90%; Rated voltage (Volt): 400 V; Frequency (Hz): 60 Hz; Power factor(Cos ϕ): 0.9; Phase & Connection: 3 phases / 4 wires; Mode of excitation: Brush; Insulation class: F;	set	2		
6	Generator Panel	Indoor type; Rated system voltage: 0.4 kV; Rated voltage: 380 V; Rated frequency: 60 Hz; - Circuit breaker Type: Indoor, three phase; Number of circuit breaker: 1(one); Rated voltage: 0.4 kV; Rated current: 70 A; Rated breaking current: 40 kA; Rated frequency: 60 Hz; Rated insulation level(1min): 2.5 kV; Number of close-open: ≥ 20,000 times; - Disconnector Type: Indoor, three phase; Quantity: 1(one); Rated voltage: 0.4 kV; Rated current: 200A; Rated breaking current: 40 kA; - Current transformer Type: Indoor; Quantity: 3(three); Rate current: Rated primary current 50 A, Rated secondary current 5 A; Rate voltage: 0.4kV; Accuracy: Measuring windings 0.5; - Voltage transformer Type: Indoor; Quantity: 3(three); Rate voltage: Rated primary voltage 400V, Rated secondary voltage 100V; Number of secondary winding: 2; Accuracy: 0.5; - Surge arrester Type: Indoor; Quantity: 1(one)set (=3pcs); Rated voltage: 500 V; Method of neutral grounding: Directly grounded; Rate discharge current : 5 kA; Single impulse energy capability: 2.5 kJ/kV; Maximum residual voltage with current wave: 30 kV; - Generator measurement and protection device Type: Indoor, digital; Quantity: 1(one); Rated voltage: 0.4 kV; Measuring system: Measuring of A.C current (A) and A.C voltage (V), Measuring of active (W) and reactive (VAr), Measuring of frequency(Hz), Measuring of active energy (Wh); Protection system(Over current protection with two steps, Over voltage protection of Generator, Under voltage protection of Generator, Overload protection of Stator, Rotor earth fault, Stator earth fault, Under frequency protection, Excitation circuit earth fault, Loss of excitation) will be considered at the detailed design stage;	set	2		

No	Item	Technical Specification	Unit	Qty	Price	
					Unit	Total
		- Synchro-put in device Voltage:0.4kV;Frequency:60Hz				
7	Excitation Panel (install into the generator panel)	Indoor type, thyristor mode - Excitation transformer Type: indoor, dry; Quantity:1(one);Primary voltage: 0.4 kV; Secondary voltage: to be suitable to the generator; Connection mode: Y/Δ; - Excitation current transformer Type: Indoor; Quantity: 3(three); Rate current : Rated primary current 50 A, Rated secondary current: 5A; Rate voltage: 0.4kV; Accuracy: Measuring windings 0.5; - Voltage transformer Type: Indoor; Number of voltage transformer: 2(two); Rated voltage: 0.4 kV/100V;	set	2		
8	Transformer	Type: Indoor, dry; Primary voltage: 0.4 kV; Secondary voltage: 0.38/0.22kV; Capacity: S=50 kVA; Frequency: 60 Hz; Connection mode: Y/Yo-12;	set	1		
9	0.4 kV/0.22kV Power Panel	Type: Indoor, multi-switch; Rated voltage (kV): 0.4kV/0.22kV; Current transformer: 2(two) Number of current transformer; Rate current: Rated primary current 20A, Rated secondary current 5A; Rate voltage: 0.4 kV;	set	2		
10	Device to regulate the load	Phase: 3; Power: 50kW; Control method: auto control	set	2		
11	Auto switch	Voltage: 500V; Current: 200A	no	2		
12	AD converter (install into the power panel)	2kVA; (Input: DC 24V, Output: AC 220V)	no	1		
13	Battery (install into the power panel)	Voltage: 12V; Capacity: 180Ah	pc	2		

B) Total Cost Per LOT (DAP):

LOT	Commodities as per specifications in Section 5a: Schedule of Requirements and Technical Specifications	Total Price[3]
LOT 1	Lot 1. List of equipment for the small hydropower plant in Ryomgam-Ri	
Total Cost of Items		
BID total DAP to the project site		
Estimated weight and volume (shipping dimensions)		
Estimated Shipping dimensions:		
Delivery time (Please state the offered delivery time in weeks)		
Estimated transit time		

LOT	Commodities as per specifications in Section 5a: Schedule of Requirements and Technical Specifications	Total Price[4]
LOT 2	Lot 2. List of equipment for the small hydropower plant in Sagi-Ri	

[3] In the case of discrepancies between unit price and total price, the unit price will be taken as reference basis in the evaluation.
[4] In the case of discrepancies between unit price and total price, the unit price will be taken as reference basis in the evaluation.

Total Cost of Items	
BID total DAP to the project site	
Estimated weight and volume (shipping dimensions)	
Estimated Shipping dimensions:	
Delivery time (Please state the offered delivery time in weeks)	
Estimated transit time	

LOT	**Commodities as per specifications in Section 5a: Schedule of Requirements and Technical Specifications**	**Total Price[5]**
LOT 3	Lot 3. List of equipment for the small hydropower plant in Singye Oup	
Total Cost of Items		
BID total DAP to the project site		
Estimated weight and volume (shipping dimensions)		
Estimated Shipping dimensions:		
Delivery time (Please state the offered delivery time in weeks)		
Estimated transit time		

C) Cost breakdown for Technical service:

Note: Technical services include:

☒ Provision of Supervision Services during installation of the equipment (the installation of equipment will be performed by the local contractors)
☒ Training of operators of the Hydropower Plants for operation and maintenance of all equipment supplied by the Contractor
☒On –site testing, commissioning, and handing over the power plants to the Purchaser

Explanation of the Total Period of Engagement:

1. Installation Phase

It is required to send the all drawings and guidelines in English version for installation of the system one month earlier before equipment delivery to the sites.

Once equipment delivery to the sites completed, at least 1 mechanical expert is required for guidance on how to install the mechanical parts in 3 project sites for 10 days including traveling in DPRK.

2. Commissioning Phase

After civil works are completed (which is expected for concrete to be fully hardened for 40 days), 1 mechanical expert and 1 electrical expert will re-visit the project sites for a total of 20 days including traveling in DPRK to provide hands-on training, onsite testing, commissioning, and handing over the hydropower plants to the respective communities.

Item	Remuneration per Unit of Time (e.g., day) **RMB/Euro/day**	Total Period of Engagement (days)	No. of Personnel/ Quantity	**Sub-total: RMB/Euro**

[5] In the case of discrepancies between unit price and total price, the unit price will be taken as reference basis in the evaluation.

1. Personnel service - Installation Phase				
2. Personnel service - Commissioning Phase				
3. DSA				
4a. local transportation From the project site to the guest house, average 60 km round trip (everyday)				
4b. local transportation From the Pyongyang to the project site, average 250 km round trip (about 2 times)				
5. Travel cost (including the ticket cost for airplane, train and bus, and VISA cost, if any)	**Unit price: RMB/Euro** _____per trip per person	**Please specify: the departure and arrival cities:**		
6. If, any other cost				
			Total cost: RMB/Euro	

LOT	**Commodities as per specifications in Section 3a: Schedule of Requirements and Technical Specifications**	**Total Price[6]**
LOT 1	Lot 1. List of equipment for the small hydropower plant in Ryomgam-Ri	
	BID total DAP to the project site	
	Technical service including training, on –site testing, commissioning, and handing over	
	LOT 1 Total	
LOT 2	Lot 2. List of equipment for the small hydropower plant in Sagi-Ri	
	BID total DAP to the project site	
	Technical service including training, on –site testing, commissioning, and handing over	
	LOT 2 Total	
LOT 3	Lot 3. List of equipment for the small hydropower plant in Singye Oup	
	BID total DAP to the project site	
	Technical service including training, on –site testing, commissioning, and handing over	
	LOT 3 Total	
Grand Total		

Name of Bidder: _____

Authorised signature: _____

Name of authorised signatory: _____

Functional Title: _____

[6] In the case of discrepancies between unit price and total price, the unit price will be taken as reference basis in the evaluation.