Empowered lives.
Resilient nations.

INVITATION TO BID

Supply of Solar Power Equipment

ITB No.: ITB/FJI/JPN/002/20

Project: Enhancing Disaster and Climate Resilience in the Republic of Palau and FSM through improved Disaster Preparedness and Infrastructure

Country: Fiji

Issued on: 17 January 2020

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 procurement.fj@undp.org, indicating whether you intend to submit a Bid or otherwise. 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.

Sincerely,

UNDP Pacific Office in Fiji

Procurement Unit

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 Comprising the Bid	8.1 The Bid shall comprise of the following documents and related forms which 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, Reject, Any or All Bids	35.1	UNDP reserves the right to accept or reject any bid, to render any or all of the 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)	Allowed, Bidders are allowed to submit their bids for each Lot or for all Lots as per given ITB
3	20	Alternative Bids	Shall be considered.
4	21	Pre-Bid conference	Will not be conducted
5	16	Bid Validity Period	90 days
6	13	Bid Security	Not Required
7	42	Advanced Payment upon signing of contract	Not Allowed. For advance payment please refer to Clause 42.1 Bank Guarantee for Advanced Payment of Section 2. Instruction to Bidders
8	43	Liquidated Damages	Will be imposed as follows: Percentage of contract price per day of delay: 0.1% Max. number of days of delay 30, after which UNDP may terminate the contract.
9	40	Performance Security	Not Required
10	13	Currency of Bid	United States Dollar Reference date for determining UN Operational Exchange Rate: February, 2020
11	31	Deadline for submitting requests for clarifications/ questions	5 days before the submission deadline
12	31	Contact Details for submitting clarifications/questions	Focal Person in UNDP: Murod Ruziev Address: Level 8, Kadavu House, 414 Victoria Parade, Privat Mail Bag Suva, Fiji E-mail address: procurement.fj@undp.org
13	18, 19 and 21	Manner of Disseminating Supplemental Information to the ITB and responses/clarifications to queries	Posted directly to eTendering
14	23	Deadline for Submission	As indicated in eTendering system. System time zone is in

			EST/EDT (New York (time zone). **PLEASE NOTE:** ✓ Date and time visible on the main screen of event (on eTendering portal) will be final and prevail over any other closing time indicated elsewhere, in case they are different. The correct bid closing time is as indicated in the eTendering portal and system will not accept any bid after that time. It is the responsibility of the bidder to make sure bids are submitted within this deadline. UNDP will not accept any bid that is not submitted directly in the system. ✓ Try to submit your bid a day prior or well before the closing time. Do not wait until last minute. If you face any issue submitting your bid at the last minute, UNDP may not be able to assist.
14	22	Allowable Manner of Submitting Bids	☐ Courier/Hand Delivery ☐ Submission by email ☒ e-Tendering **Username: event.guest** **Password: why2change**
15	22	Bid Submission Address	https://etendering.partneragencies.org Business Unit Code: FJI10 Event ID: 0000005143
16	22	Electronic submission 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: 15 MB
17	25	Date, time and venue for the opening of bid	Date and Time: next day after bid submission closing day Venue: UNDP Pacific Office in Fiji (Level 8, Kadavu House, 414 Victoria Parade, Private Mail Bag, Suva, Fiji)
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	*March, 2020*
20		Maximum expected duration of contract	3 months
21	35	UNDP will award the contract to:	One or more Proposers, depending on the following factors: evaluation of bids will be lot based and UNDP will award contract to the lowest priced technical responsive, eligible and qualified bid per each lot.
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		Other Information Related to the ITB	*N/A*

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 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 ▪ Certificate of Registration of the business, including Articles of Incorporation, or equivalent document if Bidder is not a corporation ▪ Certificates of quality (e.g., ISO, etc.), origin for the offered goods, and/or other similar certificates, accreditations, awards, and citations received by the Bidder, if any. ▪ Certificates and other documents outlined in Section 5a: Schedule of Requirements and Technical Specifications/Bill of Quantities ▪ Environmental Compliance Certificates, Accreditations, Markings/Labels, and other evidences of the Bidder's practices	Form B: Bidder Information Form

	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	
Additional eligibility documents	▪ Details of the Bidder's after-sales service capacity and appropriateness of service network in areas of delivery ▪ List and value of major contracts of similar nature and size successfully completed in the past three years, including contact details of clients, who could be contacted for reference purposes	
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 5 years	Form D: Qualification Form
Previous Experience	Minimum 3 years of relevant experience in supply of similar goods *(For JV/Consortium/Association, all Parties cumulatively should meet requirement).*	Form D: Qualification Form
Financial Standing	Minimum average annual turnover of USD 200,000 for the last 3 years *(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	Form E: Technical Bid Form
	▪ Full compliance of Bid to the Technical Requirements ▪ Full compliance of offered goods to the Technical Specifications and required quality standards ▪ Availability of certificates of quality and origin for the offered equipment ▪ Acceptability of after-sales service capacity and appropriateness of service network in areas of delivery ▪ Compliance with pricing conditions described in the Schedule of Requirements	
Financial Evaluation	Detailed analysis of the price schedule based on requirements listed in Section 5 and quoted for by the bidders in Form F.	Form F: Price Schedule 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.

	Price comparison shall be based on the landed price, including transportation, insurance and the total cost of ownership (including spare parts, consumption, training, special packaging, etc., where applicable) Comparison with budget/internal estimates.	
Post-qualification Actions	Verification of accuracy, correctness and authenticity of the information provided by the bidder on the legal, technical and financial documents submitted. Inquiry and reference checking with Government entities with jurisdiction on the bidder, or any other entity that may have done business with the bidder. Inquiry and reference checking with other previous clients on the quality of performance on ongoing or previous contracts completed. Physical inspection of the bidder's plant, factory, branches or other places where business transpires, with or without notice to the bidder.	

Section 5a: Schedule of Requirements and Technical Specifications/Bill of Quantities

Any manufacturer's names, trade names, brand names or catalogue numbers used in the specifications are for the purpose of describing and establishing general performance and quality levels. Such references are not intended to be restrictive. Bids are invited on these and comparable brands or products provided the quality of the proposed products meet or exceed the quality of the specifications listed for any item.

LOT 1

SOLAR POWER EQUIPMENT SPECIFICATIONS
(remote 12VDC system to power project RF communication equipment)

A. General System Specs

System needs to be constructed to best practice USA electrical codes for a small Photovoltaic (PV) standalone /off grid installations.

Bidders will provide details of their calculations to provide 24 hour adequate power.

1. It is a requirement that the battery storage be capable of supplying power for a minimum period of 5 days without sun.

2. Solar panels will be high reliability units with a guaranteed life of at least 25 years in severe tropical maritime climates.

3. Batteries should be long life types that require minimum maintenance. Bidders will provide details of batteries recommended. Maintenance Free - AGM 6 volt each.

4. Suitable MPPT regulators/charge controllers to provide correct charging characteristics for the selected batteries to be provided. These will have a proven record of satisfactory operation in climates similar to that prevailing in the Micronesian Islands.

5. All external cabling and fittings will be of a type that is not affected by extreme UV radiation.

6. All mounting frames and fittings will be suitable use in high salt content moist tropical atmosphere. Fittings/Fasteners/Brackets will be stainless steel or heavy Aluminium.

Bidders need to propose a complete solar power system package that includes: 1) brochures of major components (modules/controller/batteries/load center) which shows a photo and specification of the components and 2) a single line drawing which shows interconnections (include grounding system) of all components and 3) include full calculations regarding recommended battery size, proper DC rated circuit protection devices, PV module sizing and controller/regulator sizing.

Systems will be installed in a harsh marine tropical environment. Basic data to be considered for this project are as follows:

Location:

Republic of Palau (RoP) and Federated States of Micronesia (FSM)

System Voltage:

12 Volts DC with battery bank consisting of series/parallel battery bank using 6 volt SLA (lead acid) / AGM (wrapped cell sealed) batteries of approx. 200AHr each.

Load Requirements:

Require 4-5 days battery bank backup (run loads for 4-5 days with little or no sun). Average depth of discharge of battery bank not to exceed 20% of battery capacity per day with 5 days emergency reserve capacity under normal operating conditions.

Expected loads are:

24hr standby drain approx. 1.5 amp/hr at 12 volts (36amp/day load)

2 hr intermittent load/day at 20 amps (approx 40 amps/day load on transmit).

B. SOLAR PANEL SPECIFICATION

Requirement

General

Solar PV charged battery bank systems are required for powering radios and data terminals in remote outer Islands and locations where grid power is not available.

The photovoltaic (PV) modules shall operate under tropical maritime conditions which include exposure to high ambient temperatures, high humidity and high levels of atmospheric salt.

The modules are to be used to charge 6V DC SLA batteries via a maximum power point tracking (MPPT) charge controller.

Reliability of service is an important criterion and preference will be given for photovoltaic modules which have a proven capability under severe tropical marine conditions.

Environmental conditions at the site include high humidity, a high atmospheric salt content, and high ambient temperatures.

Plug and socket connectors will be designed to withstand the severe climate experienced in the islands. Denso tape will be used to seal all external connectors.

SOLAR ARRAY MOUNTING CONSTRUCTION

In most cases the solar arrays will be mounted on the roof of existing buildings.

Suitable mounting hardware will be provided to attach the solar array rack structure to wooden beams under corrugated iron roofing. Waterproofing washers and or marine caulking will be provided to weatherproof the hole through the roof.

Array structures shall allow access to any module interconnections and allow easy lifting (for inspection/troubleshooting) of the modules without disassembling the structure.

To prevent the modules from overheating, at least 8 cm of free space for air flow shall be allowed for behind (below) the modules.

The structure shall be tilted to give the modules an inclination of about 15 deg with respect to the horizontal to ensure the panels will self clean with rain.

SOLAR MODULE CONSTRUCTION

Modules should be framed with marine grade aluminium or marine grade stainless steel.

Glass covers will be of high strength glass and resistant to breakage due to panel twisting, shock or impact.

Required: stainless bolts for the module to the rack structure and stainless lags screws (3-3.5 inch x 5/16 inch or 8mm diameter minimum) to the roofs shall be included with the proposed system. 10 % excess fastener will be provided to allow for loss in transit.

Quantity 25 stainless steel cable ties shall be delivered per system (approx length of 200mm = 7-8 inch).

One roll of Denso tape to be provided per system.

MATERIALS

The mounting racks shall be of aluminium or marine grade stainless steel. Bolts, nuts, washers and other hardware shall be made of marine grade stainless steel.

CONNECTIONS

All panels will be supplied with standard PV MC4 'type' solar inter-module connectors suitable for outdoor use in extreme maritime climates.

Where panels are to be used in a parallel configuration, suitable paralleling branch connectors for positive and negative leads will be supplied.

Warranty

The Bidder must include a statement of warranties and what specifically constitutes warranty failure and all requirements and procedures for obtaining compensation for modules which have failed under warranty.

Guarantee under warranty for the panels should be at least 80% efficiency for 25 years.

C. SOLAR BATTERY SPECIFICATION

General

The project needs maintenance free deep cycle SLA / AGM batteries for use in very remote tropical islands for supplying power to emergency communications equipment.

The batteries must be long life deep cycle units suited to solar power operation.

Batteries will be of robust construction to withstand mechanical shocks expected during transport on land and sea.

It is expected that the average depth of discharge will not exceed 20% per day under normal circumstances.

Specifications

General

Expected Duty Cycle

20% of nominal capacity per day.

Maintenance-free during the whole service life.

Guaranteed life to 80% capacity

7 years.

Nominal Voltage

6 volts per battery.

Nominal capacity at 20 hour discharge rate

200 to 220 amp hours.

Design life

10 years

(80% remaining capacity)

The battery bank will consist of 6 volt batteries in series to give 12 volts.

Where additional capacity is required two or more 12 volt banks will be operated in parallel.

Batteries will be supplied with all interconnection cables to allow series / parallel connections.

Solar Power Regulators

Regulators supplied must have the following characteristics:

- Use MPPT algorithms for charge control.
- Be configured for 12 volt SLA / AGM batteries.
- Must have high efficiency (greater than 98%)

Have high reliability and sized properly for the PV array

Be protected against reverse polarity, short circuits, and high voltage surges.

Be able to operate at full power ratings in severe tropical climates without cooling fans.

Have full metering of input and output voltages and currents.

Store data for at least 100 days for later retrieval.

Have LED indicators to provide quick overview of operation status and faults.

Have a proven history of satisfactory operation in the tropical Pacific region.

Be certified by relevant authorities for safe operation.

Certifications required:

- CE; RoHS; TUV Listed (UL1741); cETL (CSA-C22.2 No. 107.1)
- TUV (IEC 62109-1); FCC Part-15 Class B compliant
- Manufactured in a certified ISO 9001 facility and equipment UL certified.

The Bidder should provide written evidence that all above requirements are met.

Interconnecting wiring

All cables and circuit protection devices must be sized for amp and voltage (see cable run estimates below) as per US NEC (National Electric Code) regulations for PV systems. Must use DC rated shutoffs and fused breakers.

The systems will be provided with:

PV INTERCONNECTION cables need to be supplied with all ends terminated (MC4 or similar waterproof connectors) and sized for a run of 50FT/18M to the regulator/charge controller (through a proper circuit protection fused shut off device).

Design and provide (unterminated) for a 20 FT/7M cable run from the controller to the batteries (also through a proper circuit protection device). Need a proper battery wire connector (copper and on the battery) for both the controller to the battery and the battery to the DC load fuse/circuit breaker box.

Design (and supply) for a 20 ft/7m cable run (unterminated) from the battery to the DC load (at least a 4 circuit breaker box) center.

All PV Interconnections and Battery interconnection cables need to be terminated with appropriate connectors as required to reduce installation time in the field.

Distribution Box / Circuit Protection

A DC distribution panel fitted with screw terminal strips and DC circuit breakers (4 each 15 and 30amp DC breakers will be provided) will be required (at least 4 breakers slots will be needed) and must be supplied by the Solar system Vendor.

All low voltage DC circuit protection devices and cabling shall be in accordance with US NEC code standards and be in accordance with IEC standard and be UL and IP65-rated.

Technical specifications and standards certificates shall be provided for all components (PV, controller) including voltage and current ratings, insulation levels, withstand voltage and current ratings, short-circuit current ratings, and earthing.

Approved fuses or circuit breakers will be fitted to provide protection to all wiring and equipment. Proper fused shutoffs will be inserted between the PV array and controller and between the controller and the batteries and between the battery bank and the DC load center.

EARTHING/ grounding

The vendor shall supply a complete earthing & basic grounding system for the solar PV installation.

Documentation

The vendor will provide a single line layout diagram of their system design for the installers (any add-on or changes to the solar vendor system layout drawing would be noted after installation for future trouble-shooters).

Vendor's design drawings shall clearly show cable routes, types and sizes for each section of the installation. Technical specifications and standards certificates shall be provided for all components of the installation including current ratings, short circuit ratings, maximum resistances, maximum charging currents, withstand ratings, neutral earthing arrangements and mechanical properties. Bidders will supply brochures with photos specifications of all major components (modules, rack, controller, batteries and load center box) with their bid package.

Lot 2

SOLAR POWER EQUIPMENT, 5 KW Stand Alone systems

A. General System Specs

System needs to be constructed to best practice USA electrical codes (NEC code) for three small (5 KW) Photovoltaic (PV) standalone /off grid installations.

Bidders will provide details of their calculations to provide 24 hour adequate power.

1. The overall system will be designed to give an estimated 12 – 15KWh of power per average day and estimated average output should be about 5KW under full sun.

2. Solar panels will be high reliability units with a guaranteed life of at least 25 years in severe tropical maritime climates.

3. Batteries should be long life types that require minimum maintenance. Bidders will provide details of batteries recommended.

4. Suitable MPPT regulators to provide correct charging characteristics for the selected batteries to be provided. These will have a proven record of satisfactory operation in climates similar to that prevailing in the Micronesian Islands.

5. All external cabling and fittings will be of types that are not affected by extreme UV radiation.

6. All mounting frames and fittings will be suitable use in high salt content moist tropical atmosphere.

The bidder shall supply complete solar power systems as a package, full calculations regarding recommended battery size, solar panel size and regulator and inverter specifications for a typical installation having the following characteristics are required:

Location:

Sonsorol, Pulo Ana and Tobi, Republic of Palau.

System Voltage:

48 Volts DC array into the battery bank consisting of parallel strings of 6 volt SLA / AGM batteries (individual batteries will be 6 volt and approx 400 amps each).

Load Requirements:

Approx daily load 12-15 KW (through a 4-5 KW inverter) at 120 volts AC /60 Hz, single phase sine wave. Loads/usage will be managed so a 4 KW inverter would be suitable.

B. SOLAR PANEL SPECIFICATION

Requirement

General

Photovoltaic modules are required for powering office equipment, radios and data terminals in remote outer Islands where grid power is not available.

The photovoltaic (PV) modules shall operate under tropical maritime conditions which include exposure to high ambient temperatures, high humidity and high levels of atmospheric salt.

The modules are to be used to charge a 48 volt bank of SLA batteries via a maximum power point tracking (MPPT) charge controller. A 4-6Kw standalone sine wave inverter will be powered off the battery bank

Reliability of service is an important criterion and preference will be given for photovoltaic / inverter components which have a proven track record working in severe tropical marine conditions.

Environmental conditions at the site include high humidity, a high atmospheric salt content, and high ambient temperatures.

Plug and socket connectors will be designed to withstand the severe climate experienced in the islands. Denso tape will be used to seal all external connectors.

SOLAR ARRAY MOUNTING CONSTRUCTION

The solar arrays will be ground mounted using robust corrosion resistant hardware. The lowest part of the solar panels should be not less than 1 meter above ground level.

Array structures shall allow easy access to any connection box and easy lifting of the modules without disassembling the structure.

The structure shall be tilted to give the modules an inclination of about 15 deg with respect to the horizontal to ensure the panels will self clean with rain.

SOLAR MODULE CONSTRUCTION

Modules should be framed with marine grade aluminium or marine grade stainless steel.

Glass covers will be of high strength glass and resistant to breakage due to panel twisting, shock or impact.

Fasteners for the structure to the foundation, the bolting of the structure and the fixing of the solar PV modules shall be included for the system. 10 % excess fastener will be provided to allow for loss in transit.

Quantity 50 stainless steel cable ties shall be delivered per system (length of 200mm).

One roll of Denso tape to be provided per system.

MATERIALS

The mounting racks shall be of aluminium or marine grade stainless steel. Bolts, nuts, washers and other hardware shall be made of marine grade stainless steel.

CONNECTIONS

All panels will be supplied with standard PV MC4 type solar panel connectors (or similar water tight snap in connectors) suitable for outdoor use in extreme maritime climates.

Where panels are to be used in a parallel configuration, suitable paralleling branch connectors for positive and negative leads will be supplied. A combiner (fuse/breaker circuit protection) box will isolate the strings

Circuit Protection Devices

Approved DC and Ac circuit protection devices will be provided between the solar panels and the controllers and controllers to battery bank and battery bank to load center across the system.

Warranty

Bidder must include a statement of warranties and what specifically constitutes warranty failure and all requirements and procedures for obtaining compensation for modules which have failed under warranty.

Guarantee under warranty for the panels should be at least 80% efficiency for 25 years.

C. SOLAR BATTERY SPECIFICATION

General

The vendor needs to purchase maintenance free Solar SLA / AGM batteries for use in very remote tropical islands for supplying power office and emergency communications equipment.

The batteries must be long life units suited to solar power operation.

Batteries will be of robust construction to withstand mechanical shocks expected during transport on land and sea.

It is expected that the average depth of discharge will not exceed 20% per day under normal circumstances.

Specifications

General

Maintenance-free during the whole service life.

Guaranteed life to 80% capacity

7 years.

Nominal Voltage/Amp capacity

6 volts per battery/ aprox 400 amp each

Design life

10 years

(80% remaining capacity)

Batteries will be supplied with all interconnection straps to allow series / parallel connections.

Solar Power Regulators/Charge Controllers

Regulators supplied must have the following characteristics:

Use MPPT algorithms for charge control.

Be configured for a 48 volt bank of SLA / AGM batteries.

Must have high efficiency (greater than 98%)

Maximize charging with available sunlight especially during low light events.

Have high reliability

Be protected against short circuits, high voltage surges and other incidents.

Be able to operate at full power ratings in severe tropical climates without cooling fans.

Have full metering of input and output voltages and currents.

Store data for at least 100 days for later retrieval.

Have LED indicators to provide quick overview of operation status and faults.

Have a proven history of satisfactory operation in the tropical Pacific region.

Be certified by relevant authorities for safe operation.

Certifications required.

CE; RoHS; TUV Listed (UL1741); cETL (CSA-C22.2 No. 107.1)

TUV (IEC 62109-1); FCC Part-15 Class B compliant

Manufactured in a certified ISO 9001 facility

Bidder must provide written evidence that all above requirements are met.

Inverter

A 4-5 KW, 120 volts AC/60 Hz single phase, stand alone, off grid sine wave inverter is required to supply the AC load. The inverter will operate from the 48 volt DC battery supply.

The supplied inverter will be from a reputable manufacturer and of a design that has a proven record in the tropical Pacific Islands. Documentary evidence will be provided stating satisfactory service in similar locations.

Interconnecting wiring

The systems will be provided with all necessary interconnection cables to connect the solar panels to the solar regulators, to the batteries, and interconnections between the batteries and the AC distribution circuit breaker panel box. Proper (DC and AC) circuit protection devices with shutoffs shall be installed between each system component.

All solar module interconnecting cables will be cut to pre-arranged lengths and be terminated with appropriate connectors as required to reduce installation time in the field.

DISTRIBUTION BOX AND Circuit Protection

The vendor shall supply all distribution box and circuit protection necessary for the protection of cabling and equipment within the solar installation in accordance with US NEC codes.

Approved fuses or circuit breakers will be fitted to provide protection to all wiring and equipment including batteries.

EARTHING

The bidder shall include all parts and accessories for a complete earthing & grounding system for the PV installation.

CABLING

The vendor shall design; supply all cabling and connectors, including all supports, fittings, terminators, junctions, connectors, and any other items necessary to complete the installation.

Cabling shall be sized to minimise voltage drop and losses in the system and in order to properly the balance the loads across the system.

Estimated runs: the ground mounted array will be within 100ft/30m of the controller room and the battery bank and Inverter will be, at a maximum, 50ft/25m apart. The AC distribution panel will be within 30ft/10m from the inverter.

The vendor shall design the cabling system to withstand the maritime tropical climatic conditions and winds up to 140kmh. All low voltage cabling shall be in accordance with NEC / Part D standards. All AC wiring will be in accordance with best practices and conform to all NEC codes.

Documentation

The vendor will provide a full set of 'as built' drawings for each (3) installation.

Design drawings shall clearly show inverter and distribution board technical specifications and standards certificates of the equipment including voltage and current ratings, insulation levels, withstand voltage and current ratings, short-circuit current ratings, and grounding requirements.

Design drawings shall clearly show cable routes, types, and sizes for each section of the installation. Technical specifications and standards certificates shall be provided for all elements/major DC components of the installation including current ratings, short circuit ratings, maximum resistances, maximum charging currents, withstand ratings, neutral earthing arrangements and mechanical properties.

Mandatory Training

The vendor shall provide one-time training at Koror, Palau for the installation and preventative maintenance of one complete 5KW solar system; this includes training materials, basic toolkits and installer or participant requirement.

The vendor should include all costs associated with delivering training on installation and preventive maintenance into their bid price component while UNDP will provide Visa support if needed.

The vendor should provide criteria for eligible participants, full training duration, facilities required for training. UNDP will arrange venue and provide administrative support. Number of training participants may vary from 10 to 20. After training, the vendor shall issue a certificate and report confirming readiness of participants to install and maintain vendor's solar system. The vendor will also confirm that all warranty terms and conditions for the solar system will apply after installation of the solar system by the trained specialists.

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)*	CIP Koror, Palau CIP Pohnpei, Federated States of Micronesia (FSM)
Exact Address of Delivery/Installation Location	Koror, Palau Pohnpei, FSM
Mode of Transport Preferred	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:	UNDP
Ex-factory / Pre-shipment inspection	No
Inspection upon delivery	Yes, inspection will be conducted at the final point of destination
Installation Requirements	No
Testing Requirements	Yes
Scope of Training on Operation and Maintenance	For Lot 2 training in Koror on installation and maintenance of the solar system is required. All costs associated with training in Koror must be included into bid price. UNDP will provide Visa support if needed.
Commissioning	No
Warranty Period	As per Section 5a: Schedule of Requirements and Technical Specifications/Bill of Quantities
Local Service Support	Details of after-sales capacity in the points of destination will be required
Technical Support Requirements	All technical supporting services and replacement of faulty parts must be provided at vendor's expense during the warranty period. Vendor should indicate nearest to the country of use designated place for shipping the equipment vehicle in case of warranty event.
After-sale services Requirements	☒ warranty and other requirements outlined in Section 5a: Schedule of Requirements and Technical Specifications/Bill of Quantities ☒ Technical Support ☒ Provision of Service Unit when pulled out for maintenance /repair ☐ Others *[pls. specify]*

[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.

Payment Terms	100% within 30 days upon UNDP's acceptance of the goods delivered as specified and receipt of invoice.
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	For evaluation purposes documentations, including catalogues, instructions and operating manuals, shall be in English. All technical documentation, instructions and operating manuals in English language will be required with delivered vehicle.

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 22.

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	☐
▪ From G: Form of Bid Security	
▪ [Add other forms as necessary]	☐
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:	ITB/FJI/JPN/002/20		

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 demonstrate 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:	▪ 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 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 ▪ Certificate of Registration of the business, including Articles of Incorporation, or equivalent document if Bidder is not a corporation ▪ Certificates of quality (e.g., ISO, etc.), origin for the offered goods, and/or other similar certificates, accreditations, awards, and citations received by the Bidder, if any. ▪ Certificates and other documents outlined in Section 5a: Schedule of Requirements and Technical Specifications/Bill of Quantities ▪ 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 ▪ Details of the Bidder's after-sales service capacity and appropriateness of service network in areas of delivery ▪ List and value of major contracts of similar nature and size successfully completed in the past three years, including contact details of clients, who could be contacted for reference purposes

Form C: Joint Venture/Consortium/Association Information Form

Name of Bidder:	[Insert Name of Bidder]	Date:	Select date
ITB reference:	ITB/FJI/JPN/002/20		

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:	ITB/FJI/JPN/002/20		

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 5 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:	ITB/FJI/JPN/002/20		

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.

UNDP Minimum Requirements *(Models to be offered by bidders should meet below minimum requirements. Bidders can offer options that exceed below specifications.)*	**Compliance with Technical Specifications**	
	Yes, We Comply	**No, we can't comply** (indicate discrepancy)
Lot 1. SOLAR POWER EQUIPMENT SPECIFICATIONS (remote 12VDC system to power project RF communication equipment)		
D. General System Specs System needs to be constructed to best practice USA electrical codes for a small Photovoltaic (PV) standalone /off grid installations.		

Bidders will provide details of their calculations to provide 24 hour adequate power. 1. It is a requirement that the battery storage be capable of supplying power for a minimum period of 5 days without sun. 2. Solar panels will be high reliability units with a guaranteed life of at least 25 years in severe tropical maritime climates. 3. Batteries should be long life types that require minimum maintenance. Bidders will provide details of batteries recommended. Maintenance Free - AGM 6 volt each. 4. Suitable MPPT regulators/charge controllers to provide correct charging characteristics for the selected batteries to be provided. These will have a proven record of satisfactory operation in climates similar to that prevailing in the Micronesian Islands. 5. All external cabling and fittings will be of a type that is not affected by extreme UV radiation. 6. All mounting frames and fittings will be suitable use in high salt content moist tropical atmosphere. Fittings/Fasteners/Brackets will be stainless steel or heavy Aluminium. Bidders need to propose a complete solar power system package that includes: 1) brochures of major components (modules/controller/batteries/load center) which shows a photo and specification of the components and 2) a single line drawing which shows interconnections (include grounding system) of all components and 3) include full calculations regarding recommended battery size, proper DC rated circuit protection devices, PV module sizing and controller/regulator sizing.		
Location: Republic of Palau (RoP) and Federated States of Micronesia (FSM)		
System Voltage: 12 Volts DC with battery bank consisting of series/parallel battery bank using 6 volt SLA (lead acid) / AGM (wrapped cell sealed) batteries of approx. 200AHr each.		
Load Requirements: Require 4-5 days battery bank backup (run loads for 4-5 days with little or no sun). Average depth of discharge of battery bank not to exceed 20% of battery capacity per day with 5 days emergency reserve capacity under normal operating conditions. Expected loads are: 24hr standby drain approx. 1.5 amp/hr at 12 volts (36amp/day load) 2 hr intermittent load/day at 20 amps (approx 40 amps/day load on transmit).		

E. SOLAR PANEL SPECIFICATION **Requirement** **General** Solar PV charged battery bank systems are required for powering radios and data terminals in remote outer Islands and locations where grid power is not available. The photovoltaic (PV) modules shall operate under tropical maritime conditions which include exposure to high ambient temperatures, high humidity and high levels of atmospheric salt. The modules are to be used to charge 6V DC SLA batteries via a maximum power point tracking (MPPT) charge controller. Reliability of service is an important criterion and preference will be given for photovoltaic modules which have a proven capability under severe tropical marine conditions. Environmental conditions at the site include high humidity, a high atmospheric salt content, and high ambient temperatures. Plug and socket connectors will be designed to withstand the severe climate experienced in the islands. Denso tape will be used to seal all external connectors.		
SOLAR ARRAY MOUNTING CONSTRUCTION In most cases the solar arrays will be mounted on the roof of existing buildings. Suitable mounting hardware will be provided to attach the solar array rack structure to wooden beams under corrugated iron roofing. Waterproofing washers and or marine caulking will be provided to weatherproof the hole through the roof. Array structures shall allow access to any module interconnections and allow easy lifting (for inspection/troubleshooting) of the modules without disassembling the structure. To prevent the modules from overheating, at least 8 cm of free space for air flow shall be allowed for behind (below) the modules. The structure shall be tilted to give the modules an inclination of about 15 deg with respect to the horizontal to ensure the panels will self clean with rain.		
SOLAR MODULE CONSTRUCTION Modules should be framed with marine grade aluminium or marine grade stainless steel. Glass covers will be of high strength glass and resistant to breakage due to panel twisting, shock or impact. Required: stainless bolts for the module to the rack structure and stainless lags screws (3-3.5 inch x 5/16 inch or 8mm diameter		

minimum) to the roofs shall be included with the proposed system. 10 % excess fastener will be provided to allow for loss in transit. Quantity 25 stainless steel cable ties shall be delivered per system (approx length of 200mm = 7-8 inch). One roll of Denso tape to be provided per system.		
MATERIALS The mounting racks shall be of aluminium or marine grade stainless steel. Bolts, nuts, washers and other hardware shall be made of marine grade stainless steel.		
CONNECTIONS All panels will be supplied with standard PV MC4 'type' solar inter-module connectors suitable for outdoor use in extreme maritime climates. Where panels are to be used in a parallel configuration, suitable paralleling branch connectors for positive and negative leads will be supplied.		
Warranty The Bidder must include a statement of warranties and what specifically constitutes warranty failure and all requirements and procedures for obtaining compensation for modules which have failed under warranty. Guarantee under warranty for the panels should be at least 80% efficiency for 25 years.		
F. SOLAR BATTERY SPECIFICATION **General** The project needs maintenance free deep cycle SLA / AGM batteries for use in very remote tropical islands for supplying power to emergency communications equipment. The batteries must be long life deep cycle units suited to solar power operation. Batteries will be of robust construction to withstand mechanical shocks expected during transport on land and sea. It is expected that the average depth of discharge will not exceed 20% per day under normal circumstances.		
Expected Duty Cycle 20% of nominal capacity per day. Maintenance-free during the whole service life.		
Guaranteed life to 80% capacity 7 years.		
Nominal Voltage 6 volts per battery.		
Nominal capacity at 20 hour discharge rate		

200 to 220 amp hours.		
Design life 10 years (80% remaining capacity) The battery bank will consist of 6 volt batteries in series to give 12 volts. Where additional capacity is required two or more 12 volt banks will be operated in parallel. Batteries will be supplied with all interconnection cables to allow series / parallel connections.		
Solar Power Regulators Regulators supplied must have the following characteristics: Use MPPT algorithms for charge control. Be configured for 12 volt SLA / AGM batteries. Must have high efficiency (greater than 98%) Have high reliability and sized properly for the PV array Be protected against reverse polarity, short circuits, and high voltage surges. Be able to operate at full power ratings in severe tropical climates without cooling fans. Have full metering of input and output voltages and currents. Store data for at least 100 days for later retrieval. Have LED indicators to provide quick overview of operation status and faults. Have a proven history of satisfactory operation in the tropical Pacific region. Be certified by relevant authorities for safe operation. Certifications required: • CE; RoHS; TUV Listed (UL1741); cETL (CSA-C22.2 No. 107.1) • TUV (IEC 62109-1); FCC Part-15 Class B compliant • Manufactured in a certified ISO 9001 facility and equipment UL certified. The Bidder should provide written evidence that all above requirements are met.		
Interconnecting wiring **All cables and circuit protection devices must be sized for amp and voltage (see cable run estimates below) as per US**		

NEC (National Electric Code) regulations for PV systems. Must use DC rated shutoffs and fused breakers. The systems will be provided with: PV INTERCONNECTION cables need to be supplied with all ends terminated (MC4 or similar waterproof connectors) and sized for a run of 50FT/18M to the regulator/charge controller (through a proper circuit protection fused shut off device). Design and provide (unterminated) for a 20 FT/7M cable run from the controller to the batteries (also through a proper circuit protection device). Need a proper battery wire connector (copper and on the battery) for both the controller to the battery and the battery to the DC load fuse/circuit breaker box. Design (and supply) for a 20 ft/7m cable run (unterminated) from the battery to the DC load (at least a 4 circuit breaker box) center. All PV Interconnections and Battery interconnection cables need to be terminated with appropriate connectors as required to reduce installation time in the field.		
Distribution Box / Circuit Protection A DC distribution panel fitted with screw terminal strips and DC circuit breakers (4 each 15 and 30amp DC breakers will be provided) will be required (at least 4 breakers slots will be needed) and must be supplied by the Solar system Vendor. All low voltage DC circuit protection devices and cabling shall be in accordance with US NEC code standards and be in accordance with IEC standard and be UL and IP65-rated. Technical specifications and standards certificates shall be provided for all components (PV, controller) including voltage and current ratings, insulation levels, withstand voltage and current ratings, short-circuit current ratings, and earthing. Approved fuses or circuit breakers will be fitted to provide protection to all wiring and equipment. Proper fused shutoffs will be inserted between the PV array and controller and between the controller and the batteries and between the battery bank and the DC load center.		
EARTHING/ grounding The vendor shall supply a complete earthing & basic grounding system for the solar PV installation.		
Documentation The vendor will provide a single line layout diagram of their system design for the installers (any add-on or changes to the solar vendor system layout drawing would be noted after installation for future trouble-shooters). Solar Vendor's design drawings shall clearly show cable routes, types and sizes for each section of the installation. Technical specifications and standards certificates shall be provided for all		

components of the installation including current ratings, short circuit ratings, maximum resistances, maximum charging currents, withstand ratings, neutral earthing arrangements and mechanical properties. Bidders will supply brochures with photos specifications of all major components (modules, rack, controller, batteries and load center box) with their bid package.		

Lot 2. SOLAR POWER EQUIPMENT, 5 KW Stand Alone systems		
A. General System Specs System needs to be constructed to best practice USA electrical codes (NEC code) for three small (5 KW) Photovoltaic (PV) standalone /off grid installations. Bidders will provide details of their calculations to provide 24 hour adequate power. 1. The overall system will be designed to give an estimated 12 – 15KWh of power per average day and estimated average output should be about 5KW under full sun. 2. Solar panels will be high reliability units with a guaranteed life of at least 25 years in severe tropical maritime climates. 3. Batteries should be long life types that require minimum maintenance. Bidders will provide details of batteries recommended. 4. Suitable MPPT regulators to provide correct charging characteristics for the selected batteries to be provided. These will have a proven record of satisfactory operation in climates similar to that prevailing in the Micronesian Islands. 5. All external cabling and fittings will be of types that are not affected by extreme UV radiation. 6. All mounting frames and fittings will be suitable use in high salt content moist tropical atmosphere.		
The bidder shall supply complete solar power systems as a package, full calculations regarding recommended battery size, solar panel size and regulator and inverter specifications for a typical installation having the following characteristics are required: **Location:** Sonsorol, Pulo Ana and Tobi, Republic of Palau		
System Voltage: 48 Volts DC array into the battery bank consisting of parallel strings of 6 volt SLA / AGM batteries (individual batteries will be 6 volt and approx 400 amps each).		
Load Requirements:		

Approx daily load 12-15 KW (through a 4-5 KW inverter) at 120 volts AC /60 Hz, single phase sine wave. Loads/usage will be managed so a 4 KW inverter would be suitable.		
B. SOLAR PANEL SPECIFICATION **Requirement** **General** Photovoltaic modules are required for powering office equipment, radios and data terminals in remote outer Islands where grid power is not available. The photovoltaic (PV) modules shall operate under tropical maritime conditions which include exposure to high ambient temperatures, high humidity and high levels of atmospheric salt. The modules are to be used to charge a 48 volt bank of SLA batteries via a maximum power point tracking (MPPT) charge controller. A 4-6Kw standalone sine wave inverter will be powered off the battery bank Reliability of service is an important criterion and preference will be given for photovoltaic / inverter components which have a proven track record working in severe tropical marine conditions. Environmental conditions at the site include high humidity, a high atmospheric salt content, and high ambient temperatures. Plug and socket connectors will be designed to withstand the severe climate experienced in the islands. Denso tape will be used to seal all external connectors.		
SOLAR ARRAY MOUNTING CONSTRUCTION The solar arrays will be ground mounted using robust corrosion resistant hardware. The lowest part of the solar panels should be not less than 1 meter above ground level. Array structures shall allow easy access to any connection box and easy lifting of the modules without disassembling the structure. The structure shall be tilted to give the modules an inclination of about 15 deg with respect to the horizontal to ensure the panels will self clean with rain.		
SOLAR MODULE CONSTRUCTION Modules should be framed with marine grade aluminium or marine grade stainless steel. Glass covers will be of high strength glass and resistant to breakage due to panel twisting, shock or impact. Fasteners for the structure to the foundation, the bolting of the structure and the fixing of the solar PV modules shall be included for the system. 10 % excess fastener will be provided to allow for loss in transit. Quantity 50 stainless steel cable ties shall be delivered per system (length of 200mm).		

One roll of Denso tape to be provided per system.		
MATERIALS The mounting racks shall be of aluminium or marine grade stainless steel. Bolts, nuts, washers and other hardware shall be made of marine grade stainless steel.		
CONNECTIONS All panels will be supplied with standard PV MC4 type solar panel connectors (or similar water tight snap in connectors) suitable for outdoor use in extreme maritime climates. Where panels are to be used in a parallel configuration, suitable paralleling branch connectors for positive and negative leads will be supplied. A combiner (fuse/breaker circuit protection) box will isolate the strings.		
Circuit Protection Devices Approved DC and Ac circuit protection devices will be provided between the solar panels and the controllers and controllers to battery bank and battery bank to load center across the system.		
Warranty The Bidder must include a statement of warranties and what specifically constitutes warranty failure and all requirements and procedures for obtaining compensation for modules which have failed under warranty. Guarantee under warranty for the panels should be at least 80% efficiency for 25 years.		
C. SOLAR BATTERY SPECIFICATION **General** The project needs to purchase maintenance free Solar SLA / AGM batteries for use in very remote tropical islands for supplying power office and emergency communications equipment. The batteries must be long life units suited to solar power operation. Batteries will be of robust construction to withstand mechanical shocks expected during transport on land and sea. It is expected that the average depth of discharge will not exceed 20% per day under normal circumstances.		
General Maintenance-free during the whole service life.		
Guaranteed life to 80% capacity 7 years.		
Nominal Voltage/Amp capacity 6 volts per battery/ aprox 400 amp each		
Design life 10 years (80% remaining capacity)		

Batteries will be supplied with all interconnection straps to allow series / parallel connections.		
Solar Power Regulators/Charge Controllers Regulators supplied must have the following characteristics: Use MPPT algorithms for charge control. Be configured for a 48 volt bank of SLA / AGM batteries. Must have high efficiency (greater than 98%) Maximize charging with available sunlight especially during low light events. Have high reliability Be protected against short circuits, high voltage surges and other incidents. Be able to operate at full power ratings in severe tropical climates without cooling fans. Have full metering of input and output voltages and currents. Store data for at least 100 days for later retrieval. Have LED indicators to provide quick overview of operation status and faults. Have a proven history of satisfactory operation in the tropical Pacific region. Be certified by relevant authorities for safe operation. Certifications required. CE; RoHS; TUV Listed (UL1741); cETL (CSA-C22.2 No. 107.1) TUV (IEC 62109-1); FCC Part-15 Class B compliant Manufactured in a certified ISO 9001 facility The Bidder should provide written evidence that all above requirements are met.		
Inverter A 4-5 KW, 120 volts AC/60 Hz single phase, stand alone, off grid sine wave inverter is required to supply the AC load. The inverter will operate from the 48 volt DC battery supply. The supplied inverter will be from a reputable manufacturer and of a design that has a proven record in the tropical Pacific Islands. Documentary evidence will be provided stating satisfactory service in similar locations.		
Interconnecting wiring The systems will be provided with all necessary interconnection cables to connect the solar panels to the solar regulators, to the batteries, and interconnections between the batteries and the AC distribution circuit breaker panel box. Proper (DC and AC) circuit		

protection devices with shutoffs shall be installed between each system component. All solar module interconnecting cables will be cut to pre-arranged lengths and be terminated with appropriate connectors as required to reduce installation time in the field.		
DISTRIBUTION BOX AND Circuit Protection The vendor shall supply all distribution box and circuit protection necessary for the protection of cabling and equipment within the solar installation in accordance with US NEC codes. Approved fuses or circuit breakers will be fitted to provide protection to all wiring and equipment including batteries.		
EARTHING The bidder shall include all parts and accessories for a complete earthing & grounding system for the PV installation.		
CABLING The vendor shall design; supply all cabling and connectors, including all supports, fittings, terminators, junctions, connectors, and any other items necessary to complete the installation. Cabling shall be sized to minimise voltage drop and losses in the system and in order to properly the balance the loads across the system. Estimated runs: the ground mounted array will be within 100ft/30m of the controller room and the battery bank and Inverter will be, at a maximum, 50ft/25m apart. The AC distribution panel will be within 30ft/10m from the inverter. The vendor shall design the cabling system to withstand the maritime tropical climatic conditions and winds up to 140kmh. All low voltage cabling shall be in accordance with NEC / Part D standards. All AC wiring will be in accordance with best practices and conform to all NEC codes.		
Documentation The vendor will provide a full set of 'as built' drawings for each (3) installation. Design drawings shall clearly show inverter and distribution board technical specifications and standards certificates of the equipment including voltage and current ratings, insulation levels, withstand voltage and current ratings, short-circuit current ratings, and grounding requirements. Design drawings shall clearly show cable routes, types, and sizes for each section of the installation. Technical specifications and standards certificates shall be provided for all elements/major DC components of the installation including current ratings, short circuit ratings, maximum resistances, maximum charging currents, withstand ratings, neutral earthing arrangements and mechanical.		
Mandatory Training		

The vendor shall provide one-time training at Koror, Palau for the installation and preventative maintenance of one complete 5KW solar system; this includes training materials, basic toolkits and installer or participant requirement. The vendor should include all costs associated with delivering training on installation and preventive maintenance into their bid price component while UNDP will provide Visa support if needed. The vendor should provide criteria for eligible participants, full training duration, facilities required for training. UNDP will arrange venue and provide administrative support. Number of training participants may vary from 10 to 20. After training, the vendor shall issue a certificate and report confirming readiness of participants to install and maintain vendor's solar system. The vendor will also confirm that all warranty terms and conditions for the solar system will apply after installation of the solar system by the trained specialists.		

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 can't comply** *(indicate discrepancies)*	
Supplier has dealers / representatives in the Micronesian region to provide effective after sales and warranty service			
e.g. Delivery Term 3 months			
All technical supporting services and replacement of faulty parts must be provided at vendor's expense during the warranty period. Vendor should indicate nearest to the country of use designated place for shipping the equipment vehicle in case of warranty event			
Manuals and instructions are required in English			
Delivery term CIP to the final points of destination			
Warranty terms and condition shall apply after installation of the solar			

system by training specialists of Palau			

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. – n/a

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. CV of trainers should be provided.

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:	ITB/FJI/JPN/002/20		

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.

Bidders shall price their bids based on the details presented in Section 5a. All prices quoted shall comply with requested INCOTERMS 2010 and shall include loading/unloading, insurance, transportation to final destination, installation, initial start-up and training. All prices quoted shall be in US Dollars and shall be exclusive of all taxes (e.g. customs duties, VAT etc.).

UNDP will award the contract to one or more Bidders, who will present the lowest priced offers of the technically qualified/responsive Bids for each lot.

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

Bidder is required to specify detailed description of offered product by providing model, brand, technical parameters and catalogue if available. Offered product should meet minimum technical specification requirements outlined in the Section 5a: Schedule of Requirements and Technical Specifications/Bill of Quantities.

Currency of the Bid: USD

Price Schedule

Table 1 - FSM

A	C	D	E = CxD*	F	G	H	I=E+F+G+H
Description	**Q-ty (pcs)**	**Unit Price**	**Total Price**	**Warranty**	**After Sales**	**Shipping Costs to Pohnpei, FSM**	**Total CIP** Price to Pohnpei, FSM**
Lot 1							
SOLAR POWER EQUIPMENT (remote 12VDC system to power project RF communication equipment) [please provide specification details, catalogue, brochure of offered model]	52						

Table 2 - Palau

A	C	D	E = CxD*	F	G	H	I	I=E+F+G+H+I
Description	**Q-ty (pcs)**	**Unit Price**	**Total Price**	**Warranty**	**After Sales**	**Training on Installation and**	**Shipping Costs to**	**Total CIP** Price to**

						Maintenance*	**Koror, Palau**	**Koror, Palau**
Lot 1								
SOLAR POWER EQUIPMENT (remote 12VDC system to power project RF communication equipment) [please provide specification details, catalogue, brochure of offered model]	5							
Lot 2								
SOLAR POWER EQUIPMENT, 5 KW Stand Alone systems [please provide specification details, catalogue, brochure of offered model]	3							

* Applicable for Lot 2

** Incoterms 2010, CIP

Name of Bidder: _____

Authorised signature: _____

Name of authorised signatory: _____

Functional Title: _____