

INVITATION TO BID

[Design, Supply and Install 2 Off-grid battery backup PV systems with 30 kWh of usable battery storage each]

Project: [Decent Life "حياة كريمة" sites]

Country: [Egypt]

Issued on: 14 June 2023

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Section 1. Letter of Invitation

In the framework of the cooperation protocol which was signed between EGYPT-PV Project which is implemented by the Industrial Modernization Centre (IMC), in cooperation with the United Nations Development Program (UNDP), and the Ministry of Local Development (حياة كريمة) for implementing solar stations on the rooftops of new and renovated buildings which are a part of the presidential initiative Decent Life "حياة كريمة" within the context of "Egypt – PV" Project.

The Ministry of Local Development (حياة كريمة) hereinafter referred to as the "Owner" intends to acquire Photovoltaic (PV) off-grid system for providing emergency backup power at public buildings in rural areas within Decent Life "حياة كريمة" initiative.

SITE AND LOCATION OF THE REQUIRED PV SYSTEM

We kindly request you to submit your proposal for the technical and financial offers for the Engineering, Procurement Construction, Commissioning and O&M for one year (without cleaning) of 2 PV back-up systems with 30kWh usable storage capacity each, 5kW AC power each. **Meanwhile, regarding the Off-grid systems, you are kindly requested to submit technical and financial offers using GEL Deep cycle batteries, in accordance with Invitation to Bid (ITB) and EGYPT-PV Project Minimum Technical Requirements (MTR), attached (Annex) hereto.**

If you are interested in submitting a Bid in response to this ITB, please prepare your proposal 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 ITB. Please acknowledge receipt of this ITB by sending an email to [hfarouh@imc-egypt.org; info@egypt-pv.org; sabelwahab@egypt-pv.org], indicating that you intend to submit a Bid.

Your Proposal must be expressed in the English, and valid for a minimum period of **90 days**. The Bidder is required to submit a Technical Bid using the Standard Tables and Forms provided in Section 5 and 6 of the ITB.

Proposals should be submitted on a hard and soft copy by Wednesday, June 21, 2023, 3:00 pm in One sealed envelope Hard copy will be delivered at EGYPT-PV Project premises, Attention to Dr. Hend Farouh, Project Manager) Address: 9 Haye'et El Tadrees Square, off Mossadak Street, Dokki , Time: 9.00am – 3.00pm).

In the course of preparing your Proposal, it shall remain your responsibility to ensure that it reaches the address above and before the deadline. Proposals that are received by EGYPT-PV Project after the deadline indicated above, for whatever reason, shall not be considered for evaluation.

Services proposed shall be reviewed and evaluated based on completeness and compliance of the proposal and responsiveness with the requirements of the ITB and attached Annex provided details for EGYPT-PV Project (MTR). The proposal that complies with all of the requirements, meets all the ITB criteria and offers the best value for money shall be selected and awarded the contract. Any offer that does not meet the requirements shall be rejected.

Any discrepancy between the unit price and the total price shall be re-computed by EGYPT-PV Project, and the unit price shall prevail and the total price shall be corrected. If the Bidder (Service Provider) does not accept the final price based on EGYPT-PV Project's re-computation and correction of errors, its proposal will be rejected. No price variation due to escalation, inflation, fluctuation in exchange rates, or any other market factors shall be accepted by EGYPT-PV

Project after it has received the proposal. At the time of Award of Contract or Purchase Order, EGYPT-PV Project reserves the right to vary (increase or decrease) the quantity of services and/or goods, 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. Meanwhile, the owner reserves the right to cancel any component of the requested services or the whole ITB before signing the contract.

The offer can be submitted in EGP or USD currencies and the exchange rate (USD to EGP) will be based on the UN operational exchange rate on the date of signing the contract. However, the total value of contract and payments will be in EGP only.

Any Contract or Purchase Order that will be issued as a result of this ITB shall be subject to the ITB general terms and conditions of the contract. The mere act of submission of a proposal implies that the Service Provider (Bidder) accepts without question the ITB and General Terms and Conditions of EGYPT-PV Project (MTR), attached (Annex) hereto.

Please be advised that EGYPT-PV Project is not bound to accept any Proposal, nor award a contract or Purchase Order, nor be responsible for any costs associated with a Service Providers preparation and submission of a Proposal, regardless of the outcome or the manner of conducting the selection process. EGYPT-PV Project encourages every prospective Service Provider to prevent and avoid conflicts of interest, by disclosing to EGYPT-PV Project, if you or any of your affiliates or personnel, were involved in the preparation of the requirements, design, cost estimates, and other information used in this ITB.

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 Service Provider (Bidders)

Section 3: Bid Data Sheet (BDS)

Section 4: Evaluation Criteria

Section 5: Returnable Requirements and Technical Specifications

Section 6: Returnable Bidding Forms

- Form A: Bid Submission Form
- Form B: Bidder Information Form
- Form C: Qualification Form
- Form D: Price Breakdown Form
- Attachment: Annex (EGYPT-PV PROJECT Minimum Technical Requirements (MTR) and Terms& Conditions).

EGYPT-PV PROJECT looks forward to receiving your proposal and thank you in advance for your interest in EGYPT-PV Project Solar EPC opportunities.

Approved by:

Name: **Dr. HEND FAROUH**

Title: **Project Manager (EGYPT-PV Project)**

Date: **June 14, 2023**

Section 2. Instruction to Bidders

GENERAL PROVISIONS

<p>1. Introduction</p>	<p>1.1 Bidders shall adhere to all the requirements of this ITB, including any amendments made in writing by EGYPT-PV Project. This ITB is conducted in accordance with the EGYPT-PV PROJECT on behalf of the owner.</p> <p>1.2 It is the Bidder responsibility to conduct a site visit to the locations prior to preparing all ITB requirements including all the cables lengths, point of connection and any other quantities needed to commission the PV system.</p> <p>1.3 Bidders are requested to send an email for conducting a site visit (if needed), The due date for the request will be on Thursday, June 15, 2023, the Bidders will receive the date of site visit with maximum 1 week.</p> <p>1.4 It is the Bidders responsibility for any approvals required throughout all the stages of the project implementation.</p> <p>1.5 Any Bid submitted will be regarded as an offer by the Bidder and does not constitute or imply the acceptance of the Bid by EGYPT-PV PROJECT. EGYPT-PV PROJECT is under no obligation to award a contract to any Bidder as a result of this ITB.</p> <p>1.6 EGYPT-PV PROJECT reserves the right to cancel the ITB at any stage without any liability of any kind for EGYPT-PV PROJECT, upon notice to the bidders or publication of cancellation notice on EGYPT-PV PROJECT website.</p>
<p>2. Fraud & Corruption, Gifts and Hospitality</p>	<p>2.1 EGYPT-PV PROJECT strictly enforces a policy of zero tolerance on proscribed practices, including fraud, corruption, collusion, unethical or unprofessional practices, and obstruction of EGYPT-PV PROJECT system integrators (System providers/Bidders) and requires all bidders/vendors observe the highest standard of ethics during the project process and contract implementation.</p> <p>2.2 Bidders shall not offer gifts or hospitality of any kind to EGYPT-PV PROJECT staff members including recreational trips to sporting or cultural events, theme parks or offers of holidays, transportation, or invitations to extravagant lunches or dinners.</p> <p>2.3 In pursuance of this policy, EGYPT-PV PROJECT:</p> <p>(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;</p> <p>(b) Shall declare a Bidder ineligible, either indefinitely or for a stated period, to be awarded a contract if at any time it determines that the Bidder has engaged in any corrupt or fraudulent practices in competing for, or in executing a EGYPT-PV PROJECT contract.</p>
<p>3. Eligibility</p>	<p>3.1 The Bidder should not be suspended, debarred, or otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization.</p>

	<p>3.2 The Bidder is required to disclose to EGYPT-PV PROJECT whether they are subject to any sanction or temporary suspension imposed by these organizations.</p> <p>3.3 Responsibility to ensure that it is NREA-Certified entity.</p>
<p>4. Conflict of Interests</p>	<p>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:</p> <ul style="list-style-type: none"> a) Are or have been associated in the past, with a firm or any of its affiliates which have been engaged by EGYPT-PV PROJECT 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 EGYPT-PV PROJECT. <p>4.2 In the event of any uncertainty in the interpretation of a potential conflict of interest, Bidders must disclose to EGYPT-PV PROJECT, and seek EGYPT-PV PROJECT's confirmation on whether or not such conflict exists.</p> <p>4.3 Similarly, the Bidders must disclose in their Bid their knowledge of the following:</p> <ul style="list-style-type: none"> a) If the owners, part-owners, officers, directors, controlling shareholders, of the bidding entity or key personnel who are family members of EGYPT-PV PROJECT staff involved in the EPC Scopes and/or the Government of the country or any Implementing Partner receiving goods and/or services under this ITB. 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.
<p>PREPARATION OF BIDS</p>	
<p>5. General Considerations</p>	<p>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.</p> <p>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 EGYPT-PV PROJECT accordingly.</p>
<p>6. Cost of Preparation of Bid</p>	<p>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. EGYPT-PV PROJECT shall not be responsible or liable for those costs, regardless of the conduct or outcome of the procurement process.</p>

<p>7. Language</p>	<p>7.1 The Bid and any technical details shall be written in English.</p> <p>7.2 All related correspondence exchanged by the Bidder and EGYPT-PV PROJECT could be in Arabic or English,</p>
<p>8. Documents Comprising the Bid</p>	<p>8.1 The Bid shall comprise of the documents and related forms which details are provided in the ITB.</p>
<p>9. Documents Establishing the Eligibility and Qualifications of the Bidder</p>	<p>9.1 The Bidder shall furnish documentary evidence of its status as an eligible and qualifications, using the Forms provided in <u>Section 6</u> below and providing documents required in those forms. In order to award a contract to a Bidder, its qualifications must be documented to NREA.</p>
<p>10. Technical Bid Format and Content</p>	<p>10.1 The Bidder is required to submit a Technical Bid using the Standard Tables and Forms provided in <u>Section 5 and 6</u> of the ITB.</p> <p>10.2 When applicable and required as per <u>Section 5 and 6</u>, the Bidder also shall describe the necessary training programme available for the maintenance and operation of the PV system offered as well as the cost of training programme. Unless otherwise specified, such training, as well as training materials, shall be provided in the language of the Bid as specified in the BDS.</p> <p>10.3 When applicable and required as per Section 5, the Bidder shall certify the overall system warranty, operation & maintenance (without cleaning), and availability of spare parts for a period of five (5) years from date of delivery.</p>
<p>11. Price Breakdown</p>	<p>11.1 The Price breakdown shall be prepared using the Form provided in Section-6, taking into consideration all the requirements in the ITB.</p> <p>11.2 Any requirement described in the Technical Bid but not priced in the Price breakdown, shall be assumed to be included in the prices of other activities or items, as well as in the final total (Turnkey) EPC financial offer; Including any civil works or any unexpected works related to the completion of the system.</p>
<p>12. Currencies</p>	<p>12.1 All prices shall be quoted in the currency or currencies indicated in the BDS.</p> <p>a) EGYPT-PV PROJECT will convert the currency quoted in the Bid into the EGYPT-PV PROJECT preferred currency, in accordance with the prevailing UN operational rate of exchange on the day of signing contract.</p>
<p>13. Joint Venture, Consortium or Association</p>	<p>13.1 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 Egypt-PV Project and the designated lead</p>

	<p>entity, who shall be acting for and on behalf of all the member entities comprising the joint venture.</p> <p>13.2 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 Egypt-PV Project.</p> <p>13.3 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.</p> <p>13.4 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 Egypt-PV Project.</p> <p>13.5 A JV, Consortium or Association in presenting its track record and experience should clearly differentiate between:</p> <ol style="list-style-type: none"> 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. <p>13.6 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</p> <p>13.7 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.</p>
<p>14. Only One Bid</p>	<p>14.1 Bids submitted by two (2) or more Bidders shall all be rejected if they are found to have any of the following:</p> <ol style="list-style-type: none"> 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.

<p>15. Bid Validity Period</p>	<p>15.1 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 EGYPT-PV PROJECT and rendered non-responsive.</p> <p>15.2 During the Bid validity period, the Bidder shall maintain its original Bid without any change, including the availability of the Key Personnel, and the total price.</p>
<p>16. Extension of Bid Validity Period</p>	<p>16.1 In exceptional circumstances, prior to the expiration of the Bid validity period, EGYPT-PV PROJECT 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.</p> <p>16.2 If the Bidder agrees to extend the validity of its Bid, it shall be done without any change to the original Bid.</p> <p>16.3 The Bidder has the right to refuse to extend the validity of its Bid, in which case, the Bid shall not be further evaluated.</p>
<p>17. Clarification of Bid (from the Bidders)</p>	<p>17.1 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 EGYPT-PV PROJECT staff member, EGYPT-PV PROJECT shall have no obligation to respond or confirm that the query was officially received.</p> <p>17.2 EGYPT-PV PROJECT will provide the responses to clarifications through the method specified in the BDS.</p> <p>17.3 EGYPT-PV PROJECT 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 EGYPT-PV PROJECT to extend the submission date of the Bids, unless EGYPT-PV PROJECT deems that such an extension is justified and necessary.</p>
<p>18. Amendment of Bids</p>	<p>18.1 At any time prior to the deadline of Bid submission, EGYPT-PV PROJECT 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.</p> <p>18.2 If the amendment is substantial, EGYPT-PV PROJECT may extend the Deadline for submission of Bid to give the Bidders reasonable time to incorporate the amendment into their Bids.</p>
<p>19. Alternative Bids</p>	<p>19.1 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, EGYPT-PV PROJECT reserves the right to award a contract based on an alternative Bid.</p> <p>19.2 If multiple/alternative bids are being submitted, they must be clearly marked as "Main Bid" and "Alternative Bid"</p>

SUBMISSION AND OPENING OF BIDS

<p>20. Submission</p>	<p>20.1 The Bidder shall submit a duly signed and complete Bid comprising the documents and forms in accordance with requirements in the BDS. The Price breakdown shall be submitted together with the Technical Bid. Bid to be only delivered personally (by courier).</p> <p>20.2 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.</p> <p>20.3 Bidders must be aware that the mere act of submission of a Bid, in and of itself, implies that the Bidder fully accepts the ITB and EGYPT-PV PROJECT MTR and General Terms & Conditions (Annex).</p>
<p>21. Hard copy (manual) submission</p>	<p>21.1 Hard copy (manual) submission by courier or hand delivery allowed or specified in the BDS shall be governed as follows:</p> <p>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.</p> <p>(b) The Technical Bid and Price breakdown must be sealed and submitted together in an envelope, which shall:</p> <ol style="list-style-type: none"> i. Bear the name of the Bidder; ii. Be addressed to EGYPT-PV PROJECT 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. <p>If the envelope with the Bid is not sealed and marked as required, EGYPT-PV PROJECT shall assume no responsibility for the misplacement, loss, or premature opening of the Bid.</p>
<p>22. Deadline for Submission of Bids and Late Bids</p>	<p>22.1 Complete Bids must be received by EGYPT-PV PROJECT in the manner, and no later than the date and time, specified in the BDS. EGYPT-PV PROJECT shall only recognise the actual date and time that the bid was received by EGYPT-PV PROJECT.</p> <p>22.2 EGYPT-PV PROJECT shall not consider any Bid that is received after the deadline for the submission of Bids.</p>
<p>23. Withdrawal, Substitution, and Modification of Bids</p>	<p>23.1 A Bidder may withdraw, substitute or modify its Bid after it has been submitted at any time prior to the deadline for submission.</p> <p>23.2 Manual and Email submissions: A bidder may withdraw, substitute or modify its Bid by sending a written notice to EGYPT-PV PROJECT, 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"</p>

<p>24. Bid Opening</p>	<p>24.1 Egypt-PV Project will open the Bid in the presence of an ad-hoc committee formed by Egypt-PV Project of at least two (2) members.</p> <p>24.2 The Bidders' names, modifications, withdrawals, the condition of the envelope labels/seals, the number of folders/files and all other such other details as Egypt-PV Project 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.</p>
<p>EVALUATION OF BIDS</p>	
<p>25. Confidentiality</p>	<p>25.1 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.</p> <p>25.2 Any effort by a Bidder or anyone on behalf of the Bidder to influence EGYPT-PV PROJECT in the examination, evaluation and comparison of the Bids or contract award decisions may, at EGYPT-PV PROJECT's decision, result in the rejection of its Bid and may subsequently be subject to the application of prevailing EGYPT-PV PROJECT's System integrators sanctions procedures.</p>
<p>26. Evaluation of Bids</p>	<p>26.1 Egypt-PV will conduct the evaluation solely on the basis of the Bids received.</p> <p>26.2 Evaluation of Bids shall be undertaken in the following steps:</p> <ol style="list-style-type: none"> 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) d) Evaluation of Technical Bids e) Evaluation of prices <p>Detailed evaluation will be focussed on the 3 - 5 lowest priced bids. Further higher priced bids shall be added for evaluation if necessary</p>
<p>27. Preliminary Examination</p>	<p>27.1 EGYPT-PV PROJECT 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. EGYPT-PV PROJECT reserves the right to reject any Bid at this stage.</p>
<p>28. Evaluation of Eligibility and Qualification</p>	<p>28.1 Eligibility and Qualification of the Bidder will be evaluated against the Minimum Eligibility/Qualification requirements specified in the Section 4 (Evaluation Criteria).</p> <p>28.2 In general terms, Bidders who meet the following criteria may be considered qualified:</p> <ol style="list-style-type: none"> a) 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; b) They are able to comply fully with the EGYPT-PV PROJECT ITB, MTR

	<p>and General Terms & Conditions.</p> <ul style="list-style-type: none"> c) They do not have a consistent history of court/arbitral award decisions against the Bidder; and d) They have a record of timely and satisfactory performance with their clients. e) They have a good financial standing and have access to adequate financial resources to perform the contract and all existing commercial commitments.
<p>29. Evaluation of Technical Bid and prices</p>	<p>29.1 The evaluation team shall review and evaluate the Technical Bids on the basis of their responsiveness to the 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, EGYPT-PV PROJECT 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.</p>
<p>30. Due diligence</p>	<p>30.1 EGYPT-PV PROJECT reserves the right to undertake a due diligence exercise (<u>if needed</u>), 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:</p> <ul style="list-style-type: none"> 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 EGYPT-PV PROJECT may deem appropriate, at any stage within the selection process, prior to awarding the contract.
<p>31. Clarification of Bids</p>	<p>31.1 To assist in the examination, evaluation and comparison of Bids, EGYPT-PV PROJECT may, at its discretion, request any Bidder for a clarification of its Bid.</p> <p>31.2 EGYPT-PV PROJECT'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 EGYPT-PV PROJECT in the evaluation of the Bids, in accordance with the ITB.</p> <p>31.3 Any unsolicited clarification submitted by a Bidder in respect to its Bid, which is not a response to a request by EGYPT-PV PROJECT, shall not be considered during the review and evaluation of the Bids.</p>

<p>32. Responsiveness of Bid</p>	<p>32.1 EGYPT-PV PROJECT'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.</p> <p>32.2 If a bid is not substantially responsive, it shall be rejected by EGYPT-PV PROJECT and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation, or omission.</p>
<p>33. Nonconformities, Repairable Errors and Omissions</p>	<p>33.1 Provided that a Bid is substantially responsive, EGYPT-PV PROJECT may waive any non-conformities or omissions in the Bid that, in the opinion of EGYPT-PV PROJECT, do not constitute a material deviation.</p> <p>33.2 EGYPT-PV PROJECT 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.</p> <p>33.3 For the bids that have passed the preliminary examination, EGYPT-PV PROJECT shall check and correct arithmetical errors as follows:</p> <ul style="list-style-type: none"> 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 EGYPT-PV PROJECT 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. <p>33.4 If the Bidder does not accept the correction of errors made by EGYPT-PV PROJECT, its Bid shall be rejected.</p>
<p>AWARD OF CONTRACT</p>	
<p>34. Right to Accept, Reject, Any or All Bids</p>	<p>34.1 EGYPT-PV PROJECT reserves the right to accept or reject any bid, to render any or all of the bids as <u>non-responsive</u>, and to reject all Bids at any time prior or after award of contract, without incurring any liability, or obligation to inform the affected Bidder(s) of the grounds for EGYPT-PV PROJECT's action.</p> <p>34.2 EGYPT-PV PROJECT shall not be obliged to award the contract to the lowest priced offer.</p>
<p>35. Award Criteria</p>	<p>35.1 Prior to expiration of the period of Bid validity, EGYPT-PV PROJECT shall award the contract to the qualified and eligible Bidder that is found to be responsive to the requirements of the Requirements and Technical Specification, and has offered the lowest price.</p>

<p>36. Debriefing</p>	<p>36.1 In the event that a Bidder is unsuccessful, the Bidder may request for a debriefing from Egypt-PV Project. 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 Egypt-PV Project ITB opportunities. The content of other Bids and how they compare to the Bidder's submission shall not be discussed.</p>
<p>37. Right to Vary Requirements at the Time of Award</p>	<p>37.1 At the time of award of Contract, EGYPT-PV PROJECT 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.</p>
<p>38. Contract Signature</p>	<p>38.1 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 EGYPT-PV PROJECT. Failure to do so may constitute sufficient grounds for the annulment of the award, and on which event, EGYPT-PV PROJECT may award the Contract to the Second highest rated or call for new Bids.</p>
<p>39. Bank Guarantee for Advanced Payment</p>	<p>39.1 Except when the interests of EGYPT-PV PROJECT so require, it is EGYPT-PV PROJECT'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.</p>
<p>40. Liquidated Damages</p>	<p>40.1 If specified in the BDS, Egypt-PV Project shall apply Liquidated Damages for the damages and/or risks caused to Egypt-PV Project resulting from the Contractor's delays or breach of its obligations as per Contract.</p>
<p>41. Payment Provisions</p>	<p>41.1 Payment will be made only upon Egypt-PV Project 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 Egypt-PV Project with direct supervision of the Contractor. Payment will be affected by bank transfer in the as stated in BDS</p>

Section 3. Bid Data Sheet

The following data for the goods and/or services to be implanted 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 attached Annex, the provisions in the Bid Data Sheet shall prevail Description of Requirements.

BDS No.	Data	Specific Instructions / Requirements
1.	Context of the Requirement	[Design, Supply and Install 2 Off-grid battery backup PV systems with 30 kWh of usable battery storage each]
2.	Implementing Partner of UNDP	EGYPT-PV Project, the Industrial Modernization Centre IMC, in cooperation with the United Nations Development Program (UNDP).
3.	List and Description of Expected Outputs to be Delivered	<ol style="list-style-type: none"> 1. Engineering Design 2. Procurement 3. Construction and installation 4. Testing and Commissioning 5. Training 6. Operation and Maintenance for one Year (Without Cleaning)
4.	General Requirements:	<p>Application process</p> <ul style="list-style-type: none"> • Bidders meeting the above requirements are requested to submit the following: <p>Closed One Envelope</p> <p>Filled all tables and forms shown in Section 5 and 6 for Submitting Service Provider's Proposal, where a detailed technical offer that corresponds to the scope of this assignment for instance:</p> <ol style="list-style-type: none"> A. Technical Requirements' tables B. Drawings, layouts, SLDs C. Datasheets and certificates D. Simulation of the design of the plant using (PVsyst or PV*SOL or other CERTIFIED program simulation) E. Bidder Company profile and its available certificates F. Track record, experience and examples of similar work G. Company and team experience H. A detailed timetable (Work plan & time of implementation) I. Components and overall system guarantee J. Maintenance, Health & Safety Plan K. Training program for the technicians L. Company's audited financial statement for the last two years. Detailed

		<p>M. Financial offer for the implementation as indicated in ITB and BDS.</p> <p>All remaining additional listed Tables, Forms, and Annex attached to the Bid</p>
5.	Progress Reporting Requirements	To be agreed upon
6.	Location of work	<input checked="" type="checkbox"/> Exact Address/es Egypt <input type="checkbox"/> At Contractor's Location
7.	Person to Supervise the Work/Performance of the Service Provider	EGYPT-PV Project Manager
8.	Person(s) to review/inspect/ approve outputs/completed services and authorize the disbursement of payment	
9.	Frequency of Reporting	<i>Twice a week</i>
10.	Language of the Bid	English
11.	Expected duration of contract	2 months
12.	Latest completion date	<p>The period for completing all work shall be in 2 Months from the date of signing the contract.</p> <p>Procurement and equipment delivery shall be done within a maximum of 1 month from the contract date.</p>
13.	Contract General Terms and Conditions ¹	<input checked="" type="checkbox"/> ITB and EGYPT-PV Project General Terms and Conditions for contracts (goods and/or services) <input type="checkbox"/> General Terms and Conditions for contracts (services only, less than \$50,000)

¹ Service Providers are alerted that non-acceptance of the terms of the General Terms and Conditions (GTC) may be grounds for disqualification from this procurement process.

14.	Travels Expected	<table border="1" data-bbox="711 285 1453 506"> <thead> <tr> <th data-bbox="711 285 902 394">Destination/s</th> <th data-bbox="902 285 1057 394">Estimated Duration</th> <th data-bbox="1057 285 1284 394">Brief Description of Purpose of the Travel</th> <th data-bbox="1284 285 1453 394">Target Date/s</th> </tr> </thead> <tbody> <tr> <td data-bbox="711 394 902 428"></td> <td data-bbox="902 394 1057 428"></td> <td data-bbox="1057 394 1284 428"></td> <td data-bbox="1284 394 1453 428"></td> </tr> <tr> <td data-bbox="711 428 902 462"></td> <td data-bbox="902 428 1057 462"></td> <td data-bbox="1057 428 1284 462"></td> <td data-bbox="1284 428 1453 462"></td> </tr> <tr> <td data-bbox="711 462 902 495"></td> <td data-bbox="902 462 1057 495"></td> <td data-bbox="1057 462 1284 495"></td> <td data-bbox="1284 462 1453 495"></td> </tr> </tbody> </table>	Destination/s	Estimated Duration	Brief Description of Purpose of the Travel	Target Date/s												
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16.	Implementation Schedule indicating breakdown and timing of activities/sub-activities	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Not Required																
17.	Names and curriculum vitae of individuals who will be involved in completing the services	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Not Required																
18.	Value Added Tax on Price Proposal ²	<input checked="" type="checkbox"/> must be inclusive of VAT and other applicable indirect taxes <input type="checkbox"/> must be exclusive of VAT and other applicable indirect taxes																
19.	Validity Period of Proposals (Counting for the last day of submission of quotes)	<input type="checkbox"/> 60 days <input checked="" type="checkbox"/> 90 days <input type="checkbox"/> 120 days In exceptional circumstances, EGYPT-PV Project may request the Proposer to extend the validity of the Proposal beyond what has been initially indicated in this ITB. The Proposal shall then confirm the extension in writing, without any modification whatsoever on the Proposal.																
20.	Partial Quotes	<input checked="" type="checkbox"/> Not permitted <input type="checkbox"/> Permitted																

21.	Submitting Bids for Parts or sub-parts of the Schedule of Requirements (partial bids)	Not Allowed
22.	Alternative Bids	Shall be considered.
23.	Bid Validity Period	90 days
24.	Bank Guarantee	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Not Required
25.	Advanced Payment upon signing of contract	Not Allowed
26.	Criteria for Contract Award	<input checked="" type="checkbox"/> Lowest Price Quote Among Technically Responsive Offers <input type="checkbox"/> Full acceptance of the Contract General Terms and Conditions (GTC). This is a mandatory criterion and cannot be deleted regardless of the nature of services required. Non-acceptance of the GTC may be grounds for the rejection of the Proposal.
29.	Currency of Bid	The offer can be submitted in USD or EGP currencies and the UN Operational exchange rate (USD to EGP) will be applied to the contract on the date of signing the contract, while the contract value and payments will be in EGP only for national companies.
30.	Deadline for submitting requests for clarifications/ questions	3 days before the submission deadline
31.	Contact Details for submitting clarifications/questions	Focal Person in EGYPT-PV PROJECT: [Dr. Hend Farouh] E-mail address: [hfarouh@imc-egypt.org; info@egypt-pv.org; wwageeh@egypt-pv.org; sabdelwahab@egypt-pv.org] Any delay in EGYPT-PV Project's response shall be not used as a reason for extending the deadline for submission, unless EGYPT-PV Project determines that such an extension is necessary and communicates a new deadline to the Proposers.
32.	Allowable Manner of Submitting Bids	<input checked="" type="checkbox"/> Courier/Hand Delivery <input type="checkbox"/> Submission by email
33.	Bid Submission Address	<u>[9 Haya'et El Tadrees Square, off Mossadak Street, Dokki Time: 9.00am – 3.00pm]</u>
35.	Expected date for commencement of Contract	June 25, 2023

36.	Maximum expected duration of contract	60 calendar days from receipt of Purchase Order																	
37.	EGYPT-PV PROJECT will award the contract to:	<input checked="" type="checkbox"/> One and only one Service Provider <input type="checkbox"/> One or more Service Providers, depending on the following factors:																	
38.	Type of Contract	<input type="checkbox"/> Purchase Order <input checked="" type="checkbox"/> Institutional Contract <input type="checkbox"/> Contract for Professional Services <input type="checkbox"/> Long-Term Agreement ³ <input type="checkbox"/> Other Type of Contract																	
39.	EGYPT-PV PROJECT Contract Terms and Conditions that will apply	This ITB and attached (Annex): EGYPT-PV PROJECT Minimum Technical Requirements (MTR) Attachment.																	
40.	Performance Security	Required in the amount of (5% of the total contract value) to be released after one year of the commissioning. Acceptable Forms of Bid Security <ul style="list-style-type: none"> ▪ Bank Guarantee Any Bank-issued Check / Cashier's Check / Certified Check 																	
41.	Payment Terms	<table border="1"> <thead> <tr> <th>Percentage</th> <th>Outputs</th> <th>Timing</th> <th>Condition for Payment Release</th> </tr> </thead> <tbody> <tr> <td>25% (twenty five Percent) of contract value shall be payable to the Contractor</td> <td>25% against the approved final designs and detailed timeline schedule</td> <td>1 weeks</td> <td rowspan="4">Upon approval of EGYPT-PV Project</td> </tr> <tr> <td>50% (thirty-five percent) of the contract value shall be payable to the Contractor</td> <td>50% against delivery of all the equipment to the project site</td> <td>2 weeks</td> </tr> <tr> <td>15% (thirty percent) of the contract value shall be payable to the Contractor</td> <td>15% against approval of installation</td> <td>2 weeks</td> </tr> <tr> <td>10% (Ten Percent) of contract value shall be payable to the Contractor</td> <td>10%After commissioning and successful 30 days performance test</td> <td>1 weeks</td> </tr> </tbody> </table>	Percentage	Outputs	Timing	Condition for Payment Release	25% (twenty five Percent) of contract value shall be payable to the Contractor	25% against the approved final designs and detailed timeline schedule	1 weeks	Upon approval of EGYPT-PV Project	50% (thirty-five percent) of the contract value shall be payable to the Contractor	50% against delivery of all the equipment to the project site	2 weeks	15% (thirty percent) of the contract value shall be payable to the Contractor	15% against approval of installation	2 weeks	10% (Ten Percent) of contract value shall be payable to the Contractor	10% After commissioning and successful 30 days performance test	1 weeks
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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 should meet the minimum criteria, unless otherwise specified

Subject	Criteria	Document Submission requirement
ELIGIBILITY		
Conflict of Interest	No conflicts of interest in accordance with ITB.	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
Legal Status	Bidder is a legally registered entity.	Form B: Bidder Information Form
Certificates and Licenses	Valid NREA's qualification certificate	Form B: Bidder Information Form
QUALIFICATION		
	<p>Company qualifications will be evaluated according to the following criteria:</p> <ul style="list-style-type: none"> • Experience: At least three years of substantive and demonstrated professional experience in the field of EPC solar projects. • Installed at least 2 separate off-grid installations with an accumulated battery capacity of at least 100 kWh. • NREA registered entity • Non-performance of a contract did not occur as a result of contractor default for the last 3 years 	Form C: Qualification Form

	<ul style="list-style-type: none"> Non consistent history of court/arbitral decisions against the bidders for the last 3 years 	
Financial Standing	<ul style="list-style-type: none"> Bidder must demonstrate the current soundness of its financial standing and indicate its prospective long-term profitability. Minimum of two contracts of similar value, nature and complexity implemented over the last 5 years Minimum average annual turnover of USD 100K contracts for the last 2 years 	
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, As stated in the Bid Data Sheet.	
Financial Evaluation	<p>Detailed analysis of the price breakdown based on requirements listed in <u>Section 6</u> and quoted for by the bidders in Form D.</p> <p>Price comparison shall be based on the landed price, including travel, transportation, insurance and the total cost of ownership (including spare parts, consumption, installation, commissioning, training, special packaging, etc., where applicable)</p> <p>Comparison with budget/internal estimates.</p>	Form D: Price Breakdown Table
Price Deviations	Bidders shall quote reasonable bid prices with an acceptable margin of deviation in comparison to the real local market prices at the time of bids preparation. In case of Unbalanced pricing (i.e. despite an acceptable total evaluated price, the price of one or more BOQ line items is significantly over or understated), EGYPT-PV PROJECT has the right to reject the unreasonable bid if it determines that the lack of reasonableness does pose an unacceptable Risk to EGYPT-PV PROJECT.	

Section 5a: Returnable Requirements and Technical Specifications

1. Photovoltaic Modules (Main offer Alternative offer)

Table 1: PV Modules Data

S	Item	Description	Page No
1	Type	(e.g. mono, poly, bifacial, half-cut, etc.)	
2	Manufacturer		
3	Model		
4	Module Max Power		
5	Country of origin		
6	Efficiency		
7	Power temperature coefficient		
8	Origin of test certificates		
9	Distance between PV rows (m)		
10	Shadowing duration and potential effect on PV energy yield (hour/year, or %) according to the distance between rows and columns designed by the tenderer		
11	Modules total number		
12	Total Power (kWp)		
13	Number of strings in the system		
14	Expected net yield on-field (KWh/year)		
15	System Performance Ratio		
16	PV module guarantee period		

2. Modules Support Structure (Main offer Alternative offer)

Table 2 Support structures data

S	Item	Description	Page No.
1	Type	(e.g., ground-mounted, roof-top, trapezoidal, etc.)	
2	Manufacturer		
3	Material		
4	Max withstood wind speed		
5	Guarantee period		

3. DC Cables (Main offer Alternative offer)

Table 3: DC Cables Data

S	Item	Description	Page No.
1	Type (DC)	(e.g. copper)	
2	Model		
3	Type of insulation		
4	Country of origin		
5	Expected overall voltage drop		
6	Guarantee period		

4. AC Cables (Main offer Alternative offer)

Table 4 AC Cables Data

S	Item	Description	Page No.
1	Type (DC)	(e.g. copper, aluminum, armored, etc.)	
20	Model		
3	Type of insulation		
4	Country of origin		
5	Expected overall voltage drop		
6	Guarantee period		

5. Batteries (Main offer: GEL Deep Cycle)

Table 7: GEL Deep Cycle Battery Data

S	Item	Description	Page No.
1	Type, Model and Country of Origin		
2	Nominal Capacity (Ah)		
3	Nominal Discharge Rate (C#)		
4	Recommended DOD%		
5	Expected Lifetime at recommended DOD (# of cycles)		
6	Guarantee period		
7	Rated Voltage		
8	Charging Voltage		
9	Number of Batteries		

6. Inverters

Table 8: Off-grid Inverters Data

S	Item	Description	Page No.
1	Type		
2	Model		
3	AC power		
4	Number of output phases		
5	Country of origin		
6	Efficiency		
7	Start-up voltage		
8	Power factor		
9	Inverter grid isolation type		
10	Number of MPPTs		
11	Automatic or manual protection against islanding		
12	Environmental type of protection		
13	Origin of test certificates		
14	Total number of inverters		

7. Data Acquisition System (Main offer Alternative offer)

Table 8: Data Acquisition System Data

S	Item	Description	Page No.
1	Type		
2	Model		
3	Country of origin		
4	Monitoring System		
5	Measures to be displayed		
6	Calculation to be displayed		

8. Display TV Screen (Main offer Alternative offer)

Table 10: Display Screen Data

S	Item	Description	Page No.
1	Type		
2	Model		
3	Screen area (in inches)		
4	Data to be displayed on the screen		

9. MCB/MCCB, Circuit Breakers: (Main offer Alternative offer)

Table 11: Circuit Breakers

S	Item	Description	Page No.
1	Type/Brand		
2	Rating		
3	Guarantee period		

10. Earthing Specs & lightning protection: (Main offer Alternative offer)

Table 12: Earthing Specs

S	Item	Description	Page No.
1	Type/Brand		
2	Earthing System Resistance Value (Ohm)		
3	Guarantee period		

11. Isolation Switches and Fuses: (Main offer Alternative offer)

Table 13: Isolation and Fuses

S	Item	Description	Page No.
1	Type/Brand		
2	Rating		
3	Guarantee period		

12. Spare Parts Percentages: (Main offer Alternative offer)

Table 14: Spare Parts Percentages

S	Item	Description	Page No.
1	Percentage of Solar Panels		
2	Percentage of fuses		

12 System and Production guarantee: (Main offer Alternative offer)

Table 15: System Production Guarantee

S	Item	Production Guarantee	Page No.
1	Energy Production: (MWh/year)		
2.	Percentage of deduction if production not achieved: (%)		

Section 5b: Additional Related Requirements:

Preliminary Submission Check-List

Yes/No	Document
	All Tables are Filled in Section (5a)
	Datasheets for the specified equipment (Please don't attach irrelevant datasheets)
	Simulation Report (PVsyst/PV*Sol)
	Detailed Designs & Shop Drawings
	Project Timeline
	Maintenance Plan
	Health and Safety Plan

- **Data Sheets and Certificates of the Components:**

All the datasheets, and certificates for the components should be attached (highlighting the used components) Sent certificates shall be valid, (PV Panels, Inverters, DC Cables, AC Cables, AC Panel, Mounting Structure, Earthing Specs, Data Acquisition System and Display TV Screen).

- **Simulation Report**

The simulation software should be certified as (PVSYST or PV*SOL... etc.). Separate simulation reports should be undertaken for each separate system.

- **Detailed Designs & Shop Drawings**

The Detailed design should include (Plant Layout, Single line Diagram, Shading Analysis, and Mounting structure detailed drawings. As well as maintenance accessibility drawings illustrating the pathways/walkway to facilitate the cleaning of PV modules.

* Drawings (A3).

- **Project Timeline (Gantt chart preferable)**

The bidder should submit a timeline with a detailed schedule for all supply and installation procedures and the time required for each activity.

- **Maintenance Plan (Scope of Maintenance, Regularity, and procedure)**

The Bidder should submit maintenance plan including the following; methodology of maintenance, cleaning the PV Modules, procedures, maintenance work periodicity, and cleaning schedule and maintenance contract period.

- **Health and Safety Plan**

The bidder shall submit a health and safety with the following objectives:

- To minimize health and safety hazards to the stakeholders
- To reduce the harmful environmental impact of the operations
- To ensure compliance with all applicable occupational health safety and environment regulations and other requirements
- To integrate health, safety, and environmental procedures and best practices into every operational activity

Section 6: Returnable Bidding Forms

This form serves as a final 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.

Final Bid Checklist:

Yes/No	Document
	Section 5 (a&b) Filling all required tables and completing all additional requirements
	Form A: Bid Submission Form
	Form B: Bidder Information Form
	Form B: Bidder Information Form
	Form C: Qualification Form
	Form D: Price Breakdown Form

FORM A: BID SUBMISSION FORM

Name of Bidder:		Date:	
ITB Project Name:	[Decent Life " حياة كريمة " Sites]		

(This Form must be submitted only using the Service Provider's Official Letterhead/Stationery)

Cairo, 2022

To: Contact Name, Position

Dear Sir/Madam:

We, the undersigned, hereby offer to render the following services to EGYPT-PV Project in conformity with the requirements defined in the ITB and EGYPT-PV Project Minimum Technical Requirements (MTR) and Terms & Condition (Annex) dated [specify date], and all of its attachments.

A. Qualifications of the Service Provider

The Service Provider must describe and explain how and why they are the best entity that can deliver the requirements of Egypt-PV Project by indicating the following:

- Profile – describing the nature of business, field of expertise, licenses, certifications, accreditations;
- Business Licenses – Registration Papers, Tax Payment Certification, etc.
- Preferably to submit Latest Audited Financial Statement – income statement and balance sheet to indicate its financial stability, liquidity, credit standing, and market reputation, etc.;
- Track Record – list of clients for similar services as those required by EGYPT-PV Project, indicating description of contract scope, contract duration, contract value, contact references;
- Certificates and Accreditation – including Quality Certificates, Patent Registrations, Environmental Sustainability Certificates, etc.

Name and Signature of the Service Provider's Authorized Person]

[Designation]

[Date]

FORM B: BIDDER INFORMATION FORM

Name of Bidder:		Date:	
ITB Project Name:	[Decent Life "حياة كريمة" Sites]		

Legal name of Bidder	
Legal address	
Year of registration	
Bidder's Authorized Representative Information	Name and Title: Telephone numbers: Email:
Are you an EGYPT-PV PROJECT system integrator?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Countries of operation	
No. of full-time employees	
Quality Assurance Certification (e.g. ISO 9000 or Equivalent) (If yes, provide a Copy of the valid Certificate):	
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):	
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	
Contact person that EGYPT-PV PROJECT may contact for requests for clarifications during Bid evaluation	Name and Title: Telephone numbers: Email:

Please attach the following available documents:

- Company Profile, which should not exceed fifteen (15) pages, including printed brochures and product catalogues relevant to the goods and/or services being procured
- List of previous similar projects
- Certificate of Incorporation/ Business Registration
- Tax Registration/Payment Certificate issued by the Internal Revenue Authority evidencing that the Bidder is updated with its tax payment obligations, or Certificate of Tax exemption, if any such privilege is enjoyed by the Bidder
- Trade name registration papers, if applicable
- Quality Certificate (e.g., ISO, etc.) and/or other similar certificates, accreditations, awards and citations received by the Bidder, if any
- Patent Registration Certificates, if any of technologies submitted in the Bid is patented by the Bidder
- Certification or authorization to act as Agent on behalf of the Manufacturer, or Power of Attorney.
- Local Government permit to locate and operate in assignment location, if applicable
- Official Letter of Appointment as local representative, if Bidder is submitting a Bid on behalf of an entity located outside the country

FORM C: QUALIFICATION FORM

Name of Bidder:		Date:	
ITB Project Name:	[Decent Life "حياة كريمة" Sites]		

Previous Relevant Experience

Please list only previous similar assignments successfully completed.

List only those assignments for which the Bidder was legally contracted or sub-contracted by the Client as a company. 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 EGYPT-PV PROJECT.

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

FORM D: PRICE BREAKDOWN FORM

Name of Bidder:		Date:	
ITB Project Name:	[Decent Life "حياة كريمة" Sites]		

The Bidder is required to prepare the Price Breakdown following the below format. The Price Breakdown 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.

The price breakdown below in (Table 15) will be filled. Any requirement described in the Technical Bid but not priced in the Price breakdown below, shall be assumed to be included in the prices of "Additional" added to the final total (Turnkey) EPC financial offer.

Table 5 Price Breakdown

Items	Number of Units	Component Price	Total Price of each item
PV Modules			
Off grid Inverters			
Batteries			
PV Supporting structures			
All Cables			
Switch Boards and protection			
Data Acquisition System			
Display TV Screen			
Spare parts			
Others (Auxiliaries, printing and reporting, etc.)			
System installation			
Operation & Maintenance (One Year Without Cleaning)			
Capacity Building			
Additional Expenses			
Total Financial Offer [USD]			

Total Financial Offer: [

USD]

Name of Bidder:

Authorised signature:

Name of authorised signatory:

Functional Title:

Annex

**[Design, Supply and Install 2 Off-grid battery backup PV systems with 30 kWh of usable battery storage each]
[Decent Life "حياة كريمة" sites]**

EGYPT-PV Minimum Technical Requirements (MTR)



EGYPT-PV
2022-2023

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Background

The Grid-Connected Small-Scale Photovoltaic Systems project “Egypt-PV” aims to remove the barriers to increased power generation by small, decentralized, grid-connected PV systems in residential, commercial, industrial, tourism and public buildings sectors. The project has been financed by the Global Environment Facility (GEF) and United Nations Development Programme (UNDP) acts as the GEF Implementing Agency. The project is being executed by Industrial Modernization Centre (IMC) of the Ministry of Industry and Foreign Trade, which will assume the overall responsibility for the achievement of project results as UNDP’s Implementing Partner.

Document Scope & Purpose

The scope of this document is to provide a guideline for tendering grid connected small-scale PV systems. These guidelines have been prepared for the benefits of miscellaneous departments and sectors buildings in Egypt. The document is considered as a guiding document, so it is generic and can be tailored as per end user needs, but still includes the minimum acceptance requirements for optimum performance grid connected PV systems. However, *the tenderer shall assume full responsibility for proper and adequate performance of this proposed system*, and accordingly, he may propose additional technical merits he believes would be useful to improve system performance where acceptance such additional proposal shall be at the sole discretion of the owner.

Legal Framework within the Egyptian context

There are many applications for solar PV, either on-grid or off-grid. This document focuses on the off-grid PV plants. The off-grid PV plants inject energy units (kWh) into batteries to be stored or directly converted to be used by the connected appliances.

Installation General Requirements

The PV panels require a shadow free area, the required shadow free area for installing systems varies depending on the site condition. This area includes provision for clearances between solar PV array rows. The solar panels may be installed on the roof of the building with a south facing tilt angle that may vary from 20° till 33° either east or west. Any damage done resulted from the solar system whether to the roof or facility should be repaired and return as its first form. The variation in the tilt angle doesn’t affect much the system yield in comparison to the panel orientation do, so it’s much advisable that panels face south direction as possible as it can be. Some cases require different tilt angles and orientations depending on the site conditions, those cases will be studied to ensure the best performance ratio and system productivity. The installed PV plants shall be maintained and cleaned sufficiently and frequently, referring to its installation area, i.e. installing PV plant in desert area will require more cleaning than in urban areas.

Egypt-PV can provide a solar module cleaning guide at the time of operation & maintenance.

The PV solar inverter is from grid-connected type, as any electronic device it requires to be installed in a place away from dust, air, rain and direct sunlight. Moreover, it should be placed in an accessible and safely placed, unless the inverter has high IP and doesn’t need to be placed indoor, but still placing in direct sunlight should be avoided.

Technical Specifications

Essential Design Criteria:

- System performance ratio (P.R.) shall not go below 75%. Both P.R and Specific Energy Yield should be determined by a professional and recognized design & simulation software (e.g. PVSOL Premium, PVSYST) after considering identifying these losses in the software's simulation parameter as followings:

Category of losses	Type of losses	Max. values of proposed percentage	Suggestions to minimize losses	Remarks
Climate losses	Temperature	8%	Consider installations with better ventilation and air circulation. Modules with better temperature coefficient can be also used.	Should be taken into account by the software based on the location. However, highest and lowest temperatures to calculate design voltages are explained in next section General Tech. Requirements Pt. 6
	Loss due to irradiance level and shading	3%	For shading, avoid shaded spots and self-shading as much as possible. 3D design and shading simulation will be helpful.	Loss due to irradiance will be taken in account by software. However, permanent or temporarily shading can be avoided during PV arrays planning.
	Soiling losses	6%	Frequent cleaning of PV modules, install in free-wastes area avoiding exhausts, trees, and other sources of soiling elements.	Should be considered in software either entered manually or automatically.
System losses	Module mismatch	2%	Use typical modules and inverters per PV plant of similar ratings and models.	Either added as default in software or can be adjusted manually
	DC wiring ohmic losses	1%	Shorter cable routes and bigger cables cross section areas.	Should be added manually in software or calculated automatically
	AC wiring ohmic losses	1%	Shorter cable routes and bigger cables cross section areas.	Should be added manually in software or calculated automatically
	Inverter efficiency losses	2%	Use high performing inverters. Select operating voltage range of strings within the MPPT range and as close as possible to the inverter rated voltage.	Usually, software advises similar inverters to be used in multi-inverter PV plants.
	LV equipment losses	1%	Use well-sized LV equipment with higher quality and less drop voltage.	Should be added manually in software
Overall average losses		25%		
Minimum P.R.		75%		

- **Note:** Offered systems with performance ratios lower than 75% shall be studied individually and justified by the tenderer.

General Technical Requirements:

The general design requirements shall consider the followings:

1. The Needed off grid systems should be available to operate sensitive medical devices at any time during the day and emergency cases in rural villages hospitals in upper Egypt.
2. Bidders will provide two Photovoltaic (PV) off-grid systems each one should cover 5 kWp loads (230V AC, 50Hz) for 6 working hours daily. It is a requirement that the battery storage be capable of supplying power for a period of one day with battery bank backup (run loads for 6 hours). Average depth of discharge (DOD) of battery bank capacity not to exceed 40 % for Gel batteries per day with +20% emergency reserve capacity under normal operating conditions.
3. Bidders will provide details of their calculations to provide 6 hours adequate power.
4. The PV system needs to be constructed to best international electrical codes for Photovoltaic (PV) standalone /off grid installation and will be designed to yield the maximum possible amount of energy on yearly average basis for PV off grid systems.
5. The PV support structures should be designed to a fixed tilt angle equal to the latitude of the site (this is only in case of direct orientation to south, varied to east or west orientations shall be determined by a recognized design & simulation software such as PVSOL Premium or PVsyst). However, slightly different tilt angles may be proposed but should be clearly justified and would be accepted at the discretion of the owner.
6. The overall system design and its components shall be commercially available and shall conform to acceptable commercial and international industry practices.
7. The installed system should be complaint with the Egyptian grid Code and with the technical requirements, the regulations & safety procedures for the international PV off grid systems.
8. Tenderers are requested to provide their estimates of the system output energy in (kWh/year) and the expected produced electric energy by the system against corresponding different solar radiation values year-round. All assumptions should be stated in a way that allows calculations to be repeated and verified. If specialized & recognized software is used, such software should be named and outputs provided such as (PVSYST or PVSOL Premium, etc.). Potential shading, if any, should be taken into consideration and clearly indicated in estimating the yearly energy yield of the proposed PV system configuration. Special attention shall be given to how the estimated PV energy yearly output was developed where the owner reserves the right for requesting clarification and adequate confirmation to that effect. In view of above, tenderers are encouraged and recommended to conduct a site visit to the location prior to preparing the offers.
9. Ambient temperatures ranging from -5 to 60 degree Celsius and relative humidity of up to 95% shall be considered. Cell/modules temperature, where the max./min. design voltage shall be based on, can be considered as 20 to 25 degrees additional to the highest occurred ambient temperature record at PV plant location (i.e., max. cell temp. = 25 + ambient temp.)
10. Personnel safety during installations, operational and maintenance of the system after the start of operation shall be an integral part of the system design. The tenderer shall define in his offer the required human safety rules both before and after the system commissioning and normal operation. However, the tenderer shall be fully responsible for his workmen during installation.
11. The tenderer must submit approved and valid acceptance test certificates for major components, including mainly but not only, PV modules, batteries, charge controllers and Inverters for the specific types and models offered. Such certificates must be in compliance with the specified IEC standard requirements or others as the case would be where the tests should be conducted by an independent and internationally recognized entity. The certificates shall be valid and contain clear information of the adopted standards (specifically IEC) as well as clear statement that the certificate can be affixed to the corresponding type and model offered along with confirmation that

periodic inspection is being performed entailing that tested and certified specimens should not be just selected by the manufacturer. In some instances, such certificates would contain different models where in such case the offered model should be clearly highlighted. Factory test certificates of the particular product type and model offered should be also supplied and will be verified.

12. The overall system warranty period shall be at least two from the date of successful commissioning during which the system integrator shall replace/maintain defective components at his own cost and risk; however longer guarantee periods may be specifically specified for some components.
13. A Performance Warranty including system performance and energy yield is required prior to contract signature to be release after the expiration of warranty period as per the system final acceptance warranty.
14. Datasheets of components including mainly but not only (modules, inverter, cables, controller, batteries, protection devices and load control) which shows specification of the components should be supplied.
15. Single line drawing which shows interconnections (include grounding system) of all components and includes full calculations regarding recommended battery size, proper DC rated circuit protection devices, PV module sizing and controller/regulator sizing.

PV MODULES

The specifications of the PV modules shall be indicated in the tenderer's technical offer documents containing at least the followings: -

1. PV Module manufacturer.
2. PV modules Model.
3. PV Module type.
4. PV Module rated peak power at STC.
5. Open circuit voltage (Voc) & Short circuit current (Isc).
6. Voltage at maximum power point (Vmpp). & Current at maximum power point (Impp).
7. PV Module Surface area and weight.
8. Current, voltage and power temperature coefficients.
9. Diodes
e.g., bypass diodes and blocking diodes.
10. Certificates of modules' testing and quality
11. Country of origin
12. Year of obtaining the IEC certificate
13. Name of testing lab issuing the certificate

Considering the following specs:

Table 6 PV Modules Specs

Compliance with standards and codes	IEC 61730, IEC 61215 and IEC 61727 and ASTM E1171 and TUV for safety or equivalent
Type	Mono or poly C-Si either half-cell, mono PERC or bifacial based on application, site condition and Egypt-PV project-specific technical recommendations.
Model	To be stated by the tenderer
Efficiency	≥ 20%
Fill factor	≥ 75%
Degradation warranty	Panel output (Wp) capacity to be ≥ 90% of design nominal power after 10 years and ≥ 80% of design nominal power after 20 years.
Module frame	Non-corrosive and electrolytically compatible with the mounting structure material (e.g. anodized aluminum)
Junction box	Thermo-plastic, IP 65, UV resistant
Module minimum rated power	≥ 450 Wp
Tagging data	<ul style="list-style-type: none"> • Manufacturer of PV Module • Manufacturer of Solar cells (if available) • Month and year of manufacture (separately for solar cells and module) • Country of origin (separately for solar cells and module) • I-V curve for the module • Imp, Vmp and FF for the module • Unique serial No. and model No. of the module • Date and year of obtaining IEC PV module qualification certificate • Name of the test lab issuing IEC certificate • Other relevant information on traceability of solar cells and module as per ISO 9000 standard
Power output rating	To be given for standard test conditions (STC). I-V curve of the sample module shall be submitted.
Panels warranty period	At least 10 years
Number and size of projects in which the offered type & model have been used	To be stated by the tenderer

SUPPORT STRUCTURE

The support structure shall be designed in a way to make both electrical and mechanical installation handfuf and easy. It shall support PV modules at a given orientation, absorb and transfer the mechanical loads to the ground/roof properly. The support structure shall be designed to a tilt angle equal to the site latitude (in case of direct orientation to south) and installed due south as possible. Some cases site restrictions could lead to compromising the tilt angle and south orientation such cases shall be studied. The following specifications should be considered:

Table 7 Support Structure Specs

Compliance with standards and codes	<p>Shall be designed according to the following codes:</p> <ol style="list-style-type: none"> 1- Egyptian code for design and implementation of reinforced concrete structures ١- الكود المصرى لتصميم وتنفيذ الهياكل الخرسانية المسلحة 2- Egyptian Code for Metal Structures ٢- الكود المصرى للمنشآت المعدنية 3- Egyptian Code of Practice for Steel Construction ٤- الكود المصرى لحساب الأحمال و القوى فى الأعمال الإنشائية و أعمال المباني
Wind velocity withstanding capacity	According to the Egyptian Code
Structure material	<p>The structure shall be corrosion resistant and made from treated aluminum alloy (anodized, oxidized, etc.) or galvanized steel with protective epoxy or electrostatic coatings or Hot-Dip galvanized steel. Lighter structures with complete fixation accessories are preferable.</p> <p>The structure material shall be tested from; the National Institute of Standards or the Egyptian Organization for Standardization and Quality, or any other equivalent governmental/consultancy agency that provides this type of tests.</p>
Mounting arrangement for metal sheet roofs	Mounting directly on the sheet metal, ensuring stability and wind withstanding capacity, or penetrating the sheet metal and fixing to the sub-structure, ensuring that the roof remains water proof and ensuring stability and wind withstanding capacity.
The method of fixation	<p>Up to the tenderer's discretion, however, fixation method should be neat and appealing as the unit will be a showcase. Overall care should be taken to provide an appealing system with neat wiring and connections. Fixation on roof surfaces shall not affect the insulation layers of the roof.</p> <p>The design of the skeleton support structure for the solar panels, and the design of fixation to the existing reinforced concrete floors should follow the Egyptian codes of practices mentioned above to support the normal conditions and extreme conditions this should</p>

	<p>include; wind impact on the structure, additional stresses due to variation temperatures.... etc.</p> <p>Design should be submitted in blue print sheets and calculation sheets from a proper certified structure consultant certified from the Egyptian Engineers Syndicate. In addition to a certification of disasters for all structure work.</p> <p>Blue prints shall include:</p> <ol style="list-style-type: none"> 1- Structure elements details (1:5) 2- All connection details 3- Plan view and elevation for all the units of the structures showing the connection to concrete floor and other details according to the above mentioned Egyptian codes.
Bolts, nuts, fasteners, panel mounting clamps	<p>Stainless steel SS 304</p> <p>All structural metal elements shall be tested according to the required standard specifications based on the above mentioned codes and organizations</p>
Installation	<p>The structures shall be designed for simple mechanical on-site installation. There shall be no requirement of welding or complex machinery at the installation site.</p>
Access for panel cleaning and maintenance	<p>All solar panels must be accessible from the top/front for cleaning and from the bottom/back for access to the module junction box.</p>
Insulation	<p>The roof of the premises must be well insulated and any damage done resulted from the solar system installation should be repaired and the contractor shall ensure that the object is returned as its first form, according to the Egyptian specifications required in the above-mentioned codes. With commitment to all the required tests if needed</p>
Panel tilt angle	<p>Depending on the site to ensure the best performance ratio and system productivity</p>

The prospective Installer shall specify installation details of the solar PV modules and the support structures with layout drawings and array connection diagrams. The work shall be carried out as per the designs approved by the Owner. Comprehensive overall system both block diagram & single line diagram shall be supplied where all drawings and diagrams shall be preferably supplied at A3 size at least.

OFF-GRID INVERTERS

The inverters shall be of the solar off grid inverters type that converts the DC power of the solar PV modules in to AC power, capable of producing single phase true sine wave at an output that comply with Egyptian grid code. It's a plus to support grid connection to be able to charge batteries from Solar PV or Grid in case off not enough sun for batteries charging. The inverters must confirm to standards IEC61683. Complete data sheets as well as valid and approved test certificates for the type and model(s) shall be submitted.

When battery bank is fully charged, the inverter should have the feature to feed the power generated from solar to load and draw the additional power from main supply to meet the load requirements in the case load are more than solar energy produced.

The following specs shall be considered:

Table 20 Off grid Inverter Specs

Type & Model(s) offered	Off grid Inverter (stand alone or hybrid) Charge controller integrated or Separate /Model(s) to be indicated by the Tenderer
Nominal Capacity	5 kW minimum (for 5 kWp capacity)
Maximum power point (MPPT) tracking	Must have MPPT
Number of independent MPPT inputs	1 or more based on number of strings
Operation AC voltage	Single phase 230V (+ or - 5%)
Output frequency	50 Hz +/- 0.5 Hz
Sin Wave type	Pure sine wave
Power factor of the inverter	≥ 0.8 at nominal power
Total harmonic distortion (THD) for current	< 5%
Charging Type	Support grid and Solar PV charging
Built-in Protection	<ul style="list-style-type: none"> • Over voltage (automatic shutdown) • Under voltage (automatic shutdown) • Overload • Short circuit (circuit breaker & electronics protection against sustained fault) • Over Temperature • Battery, PV reverse polarity • SPD type II for AC and DC
Compliance to standards, codes and Anti-islanding protection	As per IEC 62109-1, IEC62116, IEC61727, IEC 61000, IEC 61000, EN 62477, IEC 60529 for protection
Maximum Inverter efficiency	≥ 94%
Safety	The inverter shall be supplied with complete data sheets and shall comply with standards IEC61683 and correspond to factor of safety IP 65 for outdoor mounting, IP 54 for indoor mounting

Safety compliance	IEC 62109-1, IEC 62109-2
Display Type	LCD for data display. LCD / LED for status display
Display parameters to include	<ul style="list-style-type: none"> • Output power (kW) & cumulative energy (Wh) • Operation (h). Besides, an interface for troubleshooting and working settings • Charging current and Charging voltage • Voltage of PV panels • Output voltage • Grid voltage • Output frequency • Grid On
Protection Degree	IP 65 for outdoor, IP 54 for indoor
Warranty	The warranty period of the inverter shall be no less than 5 years

BATTERIES

Batteries should be long life types and maintenance Free. Bidders shall submit a single offer as with GEL Batteries. The required battery bank backup should cover 5 kWp loads for 6 working hours daily. Average depth of discharge (DOD) of battery bank capacity not to exceed 40 % for Gel batteries per day Plus 20 % emergency reserve capacity under normal operating conditions.

A suitable battery rack with interconnections & end connector shall be provided to suitably house the batteries in the bank.

The following specs shall be considered:

Battery Type	Solar Energy batteries: GEL Deep Cycle
Battery bank Capacity	30 kWh storage + 20 % emergency reserve (For Each System of the two systems) Nominal Capacity shall be rated @C20
Depth OF Discharge (DOD)	<ul style="list-style-type: none"> • ≤40% DOD for GEL batteries
Self-Discharge	Less than 3% per month at 30 degree C
Voltage	based on type and designed system
Life Expectancy	<ul style="list-style-type: none"> • ≥ 3 years for GEL batteries
Compliance to standards, codes	As per IEC 61427, IS 13369, IS 1651, IEC 62133, IEC 60086 and IEC 61960
Container	Polypropylene Co-polymer/hard rubbers with carrying handle.
Warranty	The warranty period of the battery shall be no less than 1 year

SOLAR POWER REGULATOR/CHARGE CONTROLLER

Charge controller(s) must be Maximum Power Point tracker (MPPT) type to provide correct charging characteristics for the selected batteries with a proven record of satisfactory operation at the international market and shall be incorporated with inverter or separate.

Regulators supplied must have the following characteristics:

- Use MPPT algorithms for charge control.
- Combatable with GEL 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, input and high voltage surges, Deep Discharge, Over Current (load), Battery Reverse Polarity, Solar array reverse polarity 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 world market.
- Be certified by relevant authorities for safe operation.
- Certifications required: CE, RoHS, TUV Listed (UL1741), TUV (IEC 62109-1), IEC 62093 / IEC 60068
- Manufactured in a certified ISO 9001 facility
- Have monitoring accessibility ethernet / RS485 types.
- Protection degree: IP 65 for outdoor, IP 54 for indoor

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

ISOLATION SWITCH, FUSES and OVERCURRENT PROTECTION

The system must contain an isolation switch which can isolate the PV system from the building electrical network. The isolation switch shall be mounted near the building electric grid connection point. The cables from the array strings to the solar grid inverters shall be provided with DC fuse protection. Fuses shall have a voltage rating and current rating as required. The fuse shall have DIN rail mountable fuse holders and shall be housed in thermoplastic IP 65 enclosures with transparent covers.

An overcurrent protection device in the form of an automatic circuit breaker with magnetic and thermal threshold should be installed at the AC side of the inverter in an either dedicated LV panel or within the nearest distribution board of the facility. AC breakers can be MCB or MCCB. Breaker ampere rating shall be sized and selected as per the installation manual of the inverter or by considering the max. output current of the inverter and select the closest up rating for the breaker. All overcurrent protection shall follow the requirements of the IEC 6034-7

CABLING AND WIRING

All cables shall be supplied conforming to IEC 60228 & IEC 60502, Voltage rating: 1,000V DC considering the following specs:

Table 8 Cable wiring Specs

For DC Solar Cables	<p>XLPE or XLPO insulated and sheathed, UV stabilized single core flexible copper PV cables shall be used.</p> <p>The power outdoor cabling shall be made of copper conductors with double sheath inside XLPE or PVC pipes and inside cable tray all complete with mounting and fixing accessories, junction and connection boxes as well as any needed additional accessories. Both +ve and -ve conductors shall not form loops, which may in turn induce electromagnetic fields, where all +ve and -ve cables must run as close to each other as possible.</p>
For AC Cables	<p>For the AC cabling, PVC or XLPE insulated and PVC sheathed single or multi-core flexible copper cables shall be used. Outdoor AC cables shall have a UV-stabilized outer sheath.</p>
Voltage drop allowance	<p>The total voltage drops on the cable segments from the solar PV modules to the solar grid inverter, and from the solar grid inverter to the building shall not exceed 2.0%.</p>
Ducting and Conduits	<p>The DC cables from the solar PV module array shall run through a UV-stabilized PVC conduit pipe of adequate diameter with a minimum wall thickness of 1.5mm.</p> <p>Cables and conduits that have to pass through walls or ceilings shall be taken through a PVC pipe sleeve.</p>
Cables Connectors	<p>Cables and wires used for the interconnection of solar PV modules shall be provided with solar PV connectors (MC4) and couplers.</p>
Cables Sizing	<p>All cables and conduit pipes shall be clamped to the rooftop, walls and ceilings with thermo-plastic clamps at intervals not exceeding 50 cm. The minimum DC cable size shall be 6.0 mm² copper. The minimum AC cable size shall be 4.0 mm² copper. In three phase systems, the size of the neutral wire size shall be half the size of the phase wires.</p> <p>PV wiring and cabling shall be rated at 125% of the rated operating DC/AC current of PV array at 25°C cell temperature and 1000 W/m² solar irradiance.</p>
Cables Coloring	<p>The following color coding shall be used for cable wires:</p> <ul style="list-style-type: none"> - DC positive: red (the outer PVC sheath can be black with a red line marking) - DC negative: black - AC single phase: Phase: red; neutral: black - AC three phases: Phases: red, yellow, blue; neutral: black - Earth wires: green & yellow
Labeling	<p>All cables should be labeled referring the Inverter Number and the String Number, i.e. "I3-S4", means the cable connects the fourth string in the third inverter.</p>
Cable Terminals	<p>Cable conductors shall be terminated with tinned copper end-ferrules to prevent fraying and breaking of individual wire strands. The termination of the DC and AC cables at the Solar Grid Inverter shall be done as per instructions of the manufacturer, which in most cases will include the use of special connectors.</p>

EARTHING AND LIGHTNING PROTECTION

1. A proper method of earthing/grounding the solar array to the associated mounting structures and to the cabling/conduit system all the way to the earthing network shall be explained and submitted, where all of the used components' data sheets shall be available in the technical offer as well
2. **ALL** the system components; PV modules frames, array support structure, inverter, electric boxes, etc. shall all be earthed through ground copper rods to limit the earthing system resistance to 1.5 Ohm
3. The contractor is committed to test and validate the effectiveness of the installed earthing system in an owner-approved testing lab such as the high voltage lab of the EEHC.
4. The resulting test certificate will be part of the primary acceptance.
5. The earthing system of the PV system should be separated from the building earthing, and the contractor should consult the distribution company to approve the earthing system to facilitate the handover and grid interconnection process.
6. The earthing system resistance should not exceed **1.5 ohms** for AC.
7. The earth electrodes shall have a precast concrete enclosure with a removable lid for inspection and maintenance. The entire earthing system shall comprise non-corrosive components.
8. Drawings, datasheets and methodology of the earthing should be included in the technical offer.
9. Cable Trays & Conduits for AC and DC cables are advisable, the cable trays shall be made of galvanized steel and be accessible for maintenance.

In case of using conduits, the materials used outdoors should be one of the following:

- EMT
- PVC (Ultra violet protected)
- Flexible (Ultra violet protected)

Adding that the cable ties shall be ultra violet protected.

Caution Signs

Caution and danger signs/labels as per the Egyptian Electricity Standards should be hanged on the following:

- Inverters
- Cable Trays
- Distribution boards

The signs and labels should withstand the outdoors weather conditions (e.g. non-corrosive)

DATA ACQUISITION SYSTEM (DAS)

Suitable data acquisition should be provided to each building and accessible remotely for online monitoring.

- Suitable number of input channels should be selected for measuring and later calculating hence recording the system and subsystem parameters and allowing monitoring system performance and display the following but not limited to:
- PV array current and voltage,
- ambient temperature,
- solar irradiance on the tilted surface,
- PV instantaneous power, system accumulated energy output for different preset time intervals e.g. daily, weekly, monthly etc.

The system should log the data on circular overwrite manner every one year at least.

System data on the Owner domain should be accessible with password, well arranged and informative.

Through the owner domain, there should be the possibility to download the recorded data in a spreadsheet readable format for further analysis.

DC COMBINER BOX/ARRAY JUNCTION BOX

- The junction boxes are to be provided in the PV array for termination of connecting cables. The Junction Boxes (JBs) shall be dust, water and vermin resistant with IP65 for outdoor or IP54 for indoor installations. All wires/cables must be terminated through cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands.
- Copper bus bars/terminal blocks housed in the junction box with suitable termination threads conforming to IP standard and IEC 62208 Hinged door with rubber gasket to prevent water entry with single compression cable glands, provision of earthing. It should be placed at 1 meter height or above for ease of accessibility.
- Suitable markings shall be provided on the bus bar for easy identification and the cable ferrules must be fitted at the cable termination points for identification.
- Fuse Protection on Strings: DC fuses rates should be suitable according to the system design from leading manufacturers to be used in the combiner box to provide over-current protection.
- 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.
- Surge Protection Device: Surge Protection devices (SPD) to be provided to protect the combiner/junction box from any power surge and voltage spike. SPD to be used should meet Type 2 regulations, and to be typically rated between 600 to 1000V
- Input Glands/ Connectors: The combiner/ array junction box offered is to be provided with IP 65 rated Cable Glands or MC 4 connectors at the input side to lead the array strings into the box.
- 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.

AC DISTRIBUTION PANEL BOARD

- An AC distribution box shall be provided between the Inverter and the existing building distribution Panel. This panel shall have provision for protection, connection and disconnection of individual inverters from the AC system.
- The AC Box will be used to combine AC power coming from the inverters.
- The AC Box shall be dust, vermin & water resistant with IP 65 for outdoor or IP54 for indoor installations.
- The junction boxes shall have suitable cable entry points fitted with cable glands of appropriate sizes for both incoming and outgoing cables.
- Suitable markings shall be provided on the bus bar for easy identification and cable ferrules shall be fitted at the cable termination points for identification.
- It should have the facility to protect from over currents & isolate the AC box from the main AC line.
- The AC Box should have surge protection devices, to protect inverters from surges in the AC line.
- All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better Connections of cable with the bus bars should be properly tightened& check nuts must be provided to avoid any possibility of loosening of connections.
- All switches and the circuit breakers, connectors should conform to IEC 60947 part I, II.
- The changeover switches, cabling work should be undertaken by the bidder as part of the project.
- Breaker ampere rating shall be sized and selected as per the installation manual of the inverter or by considering the max. output current of the inverter and multiply by 1.25 and select the closest up rating for the breaker. All overcurrent protection shall follow the requirements of the IEC 6034-7.

BATTERY BOX

- A battery box is a metal container with racks inside that holds, organizes and suitably house the batteries. It is provided in the system for securing the termination and connections of batteries.
- The battery box shall be dust, water and vermin resistant with IP 65 for outdoor or IP54 for indoor installations.
- All wires/cables must be terminated through cable lugs. Battery terminal shall be covered.
- The box shall have suitable cable entry points fitted with cable glands of appropriate sizes for both incoming and outgoing cables.
- Connections of batteries should be properly tightened& check nuts must be provided to avoid any possibility of loosening of connections.

Documentation

The Installer shall supply the following documentation:

- System description with working principles
- Timeline
- System single line diagram.
- Solar PV array lay-out.
- Routing diagram of cables and wires.
- Data sheets and user manuals of the solar PV panels and the solar grid inverter.
- Quality plan
- Health & Safety Plan
- A system operation and maintenance manual.
- Contacts of the service center to be contacted in case of troubleshooting, failure or complaint.
- Warranty cards.
- Maintenance register.
- Step by step of system installation (Work Method Statement)

SPARE PARTS LIST

The tenderer shall submit in his offer the recommended spare parts for different system components based on his previous experience with similar systems, the spare parts list should include at least but not limited to 2% of the total supplied modules and 5% of the total supplied fuses of both the AC and DC connection.

DRAWINGS AND CATALOGUES

The tenderer shall include in his tender adequate engineering drawings and circuit diagrams, single line diagrams and full detailed drawings. Components specifications shall be supported by catalogues containing full technical description and certification of values indicated.

SYSTEM DESIGN AND TIME SCHEDULE

The tenderer shall indicate his overall system design configuration and the owner shall have the right to ask for and require any explanations.

In addition, the tenderer shall indicate in his offer his proposed implementation time schedule which **won't exceed 2 months**.

PRE & DURING INSTALLATION CHECKING & VERIFICATION

Upon completion of the supply of the PV system equipment & components & before installation start, the contractor/supplier shall inform the owner who will conduct a complete preliminary checking and verification of the whole supply against contracted equipment and component lists as well as corresponding specifications including type and models offered and approved where any deviations well not be accepted. During installation the owner reserves right to inspect progress of work and forward any relevant remarks for due consideration.

TRAINING

Theoretical and practical training program will be developed and conducted by the contractor for this project. This training program will be on-the-job-training (OJT) at the project site. The training is obliged to be provided

by the tenderer to assure the sustainability of the system. Also, this training includes and not limited to faults correction actions for safety.

SYSTEM PRELIMINARY ACCEPTANCE

The owner will visually check all system components and connections and may ask for modification if inconvenience is found.

The contractor will test the functionality of the system components, measure the system parameters in front of the owner and the owner has the right to propose additional non-destructive test conditions, if he believes so is needed, to double check the system response. Tests are to be conducted by the contractor under the contractor's responsibility.

The equipment that will be used in the testing can be provided by the contractor or by other side that is approved by the owner.

Any non-conformity revealed during the testing should be corrected to the mentioned specifications in the tender under the contractor's account and responsibility.

In order to guarantee the long-term system performance, an agreement between the contractor and the owner will be made, ensuring that the owner trained-personnel will carry out the regular routine maintenance according to the contractor's specifications.

Having the tests successfully implemented, the system should run automatically for two weeks under observation. Having not encountering any problem in the system operation during the two weeks; the primary acceptance will be completed successfully.

SYSTEM FINAL ACCEPTANCE

The owner will monitor system performance and output for 1 year during which accumulated energy output will be recorded. At the end of the 1 year period the total accumulated system energy output should be equal or be above the tenderer estimated yearly energy yield, taking into consideration to the degradation.

In case that the accumulated energy output is less than the figures (earlier given by the tenderer in his offer) by a maximum of 5%, the owner will consider that the tenderer has complied with the requirements and accept the system, hence release and return the final guarantee. If the total measured accumulated output is less than the estimated figures (given by the tenderer in his offer for 1 year) by more than 5%, hence the owner will have the right to deduct a percentage from the final letter of guarantee proportional to the percentage decrease in the measured value compared to the estimated one. If the decrease in the accumulated 1 year energy exceeded 5% (i.e. equivalent to less than 95% of the agreed-on output), then the owner shall have the right to liquidate and confiscate the final letter of guarantee.

Submitting all the tests done to ensure proper commissioning in order to issue the final acceptance certificate.

OFFER PREPARATION

The hereinafter requirements shall apply to the PV system. The tenderer/bidder shall submit a complete offer for the required systems including the following items in the following order and in separate sections:

A statement from the bidder explaining his situation and approach towards the supply and installation of the main items required in the tender (e.g. briefing for: system component listing, warrantee, guarantee, training period,

maintenance contract period, the offer total page number, comments, any reservations should also be clearly stated her, etc.).

- Detailed system design besides defining the main features and functionality of all system components, dimensional layout, etc.
- Clear project time schedule, indicating the main milestones actions of the schedule.
- Technical specifications of the main system components such as PV specs, performance guarantee for the supplied PV modules, inverter, etc.
- Overall System performance guarantee.
- Certifications for the main system components.
- Proposed system acceptance testing.
- Proposed training program.
- Spare parts list.
- A simple financial feasibility study (Including payback period, IRR, based on a forecasted tariff price in the next 5 years in the point of view of the company)
- Previous experience of PV projects in general and in Egypt. In particular projects where the same offered type of PV modules was used; defining the nature of application and the project size.
- The project assigned-staff experience regarding their relevant training and experience in similar projects, special attention should be given to the project manager who will supervise the potential contract implementation.
- The required legal document of the company specified in this document, in particular the certificate of company accreditation issued by the new and renewable energy authority (NREA) and being listed in the Egypt-PV project guiding list.
- Every offer is expected to follow this order and to use an obvious partition between every section along with an index in the beginning.
- Every page in the offer should be numbered at the bottom-right corner place from the beginning to the end.
- Tables specifying system component information are attached. It should be filled-in with all required information. The "page number" column in the table is referring to the document page number in the tenderer's offer from which this particular information was collected. Also, this particular information in the document should be highlighted in the main document body with a highlighter pen.
- The financial form in the appendix is to be filled and included in the financial envelope.
- The required specifications according to the a/m tables besides the tenderer text represent the minimum requirements; however, any additional data and information deemed necessary and/or useful by the tenderer should also be added.
- Technical and financial offer shall be submitted as hard copies, other related documents (Datasheets, certificates, etc..) may also additionally submitted as softcopy

TESTING

Testing shall be performed at approved laboratory as required to ensure the proper functioning of all components installed. Required testing equipment shall be in good operating condition and shall be properly maintained and calibrated. Upon completion of testing and checking of each item of equipment, any necessary maintenance and protection shall be carried out, written documentation shall be maintained for all checking and testing results.

PV modules tests

PV modules must qualify through enclosing test reports according to IEC standard. Additionally, performance of PV modules at standard test condition must be tested in accordance with IEC 61215 and IEC 62446. Crystalline silicon photovoltaic (PV) array - On-site measurement of current voltage characteristics shall be in accordance with IEC 61829.

Inverter tests.

Each inverter shall be subjected to a production test in accordance with IEC 61727.

The contractor shall certify that the equipment has been tested and passed the design test as described in IEEE1547.

Test reports.

The contractor shall submit certified test data of all testing performed, in accordance with IEC 60904 part 1 prior to shipment of the equipment.

Testing shall be performed as required to ensure the proper and complete

Installation of all components. Required testing equipment shall be in good operating condition and shall be properly maintained and calibrated. Upon completion of testing and checking of each item of equipment, any necessary maintenance and protection shall be carried out. Written documentation shall be maintained for all checking and testing report.

APPENDICES

Appendix (1): Schematic for off-grid solar PV system

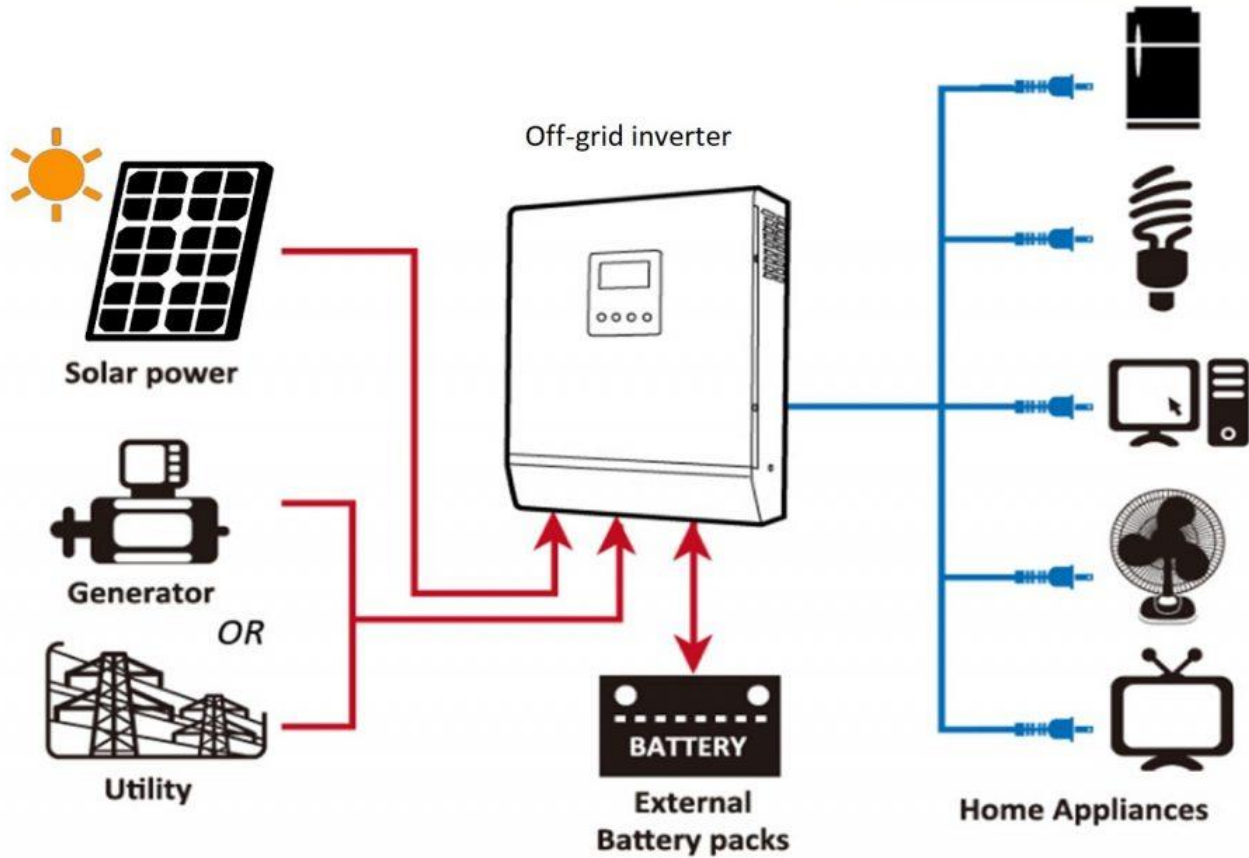


Figure 1: Schematic for typical off-grid system

Appendix (3): Acceptance Check-list

Project:

Sector:

Location:

System Integrator:

Capacity:

Inverter No.:

PV No.:

Date of implementation:

Date of inspection:

PV Modules

- MC4 connections inspected for workmanship.
- Module cables a properly secured to module frame; no dangling wires
- Bend radius no greater than four times diameter of wire
- No debris on module surface, such as foam pads, sealant residue, etc.
- No physical damage to module frames or laminates
- Module wiring enters a strain relief prior to landing on any terminal block.
- Ground wire and lug are securely attached to rails and to module frames.
- String layout marked up on array layout and recorded. Confirm that
- Serial Numbers have been recorded.

Pass	Fail	Fixed/Comments

Mounting Structure

- All Structure is installed as designed and torque as needed.
- Confirm correct structure stack up. Example: Lock washer where needed.
- Roof penetrations secured and flashed
- Racking properly secured to rafters / standing seam

Pass	Fail	Fixed/Comments

Building envelope penetrations

- All penetrations weather sealed or fire stopped Around the outside of conduit
- All conduit raceways filled with duct seal at first building penetration
- Signal wiring penetrations (DAS) sealed around the outside of conduit
- DC conduit labeled "warning DC voltages"

Pass	Fail	Fixed/Comments

DC Combiner Boxes (Combiners expected integrated in the inverters)

- Box securely fastened and sealed against the weather, with weep holes if needed
- Array wiring leading to box is neat and supported
- Field wiring routed neatly within
- Field wiring terminations are tight.
- Field wiring is properly polarity marked with colored tape or wire insulation color
- Wire identified with permanent markers/labels. (string numbers)
- Ground wire is securely attached
- Conduit connections are tight and bushings used if applicable
- Locations marked on roof layout or conduit drawing.
- Label "warning: DC voltages"

Pass	Fail	Fixed/Comments

DC Disconnect Switch

- Field wiring is neatly routed inside
- Field wiring terminations are tight.
- Wire identified with permanent markers/labels.
- Verify fuses are installed (when fuses are used)
- Verify fuse type and rating conform to one line (when used)
- Ground wire is securely attached
- Conduit connections are tight and bushings used if applicable
- Box cover is secure and tight
- labels in place
- Locking Seal installed if readily accessible

Pass	Fail	Fixed/Comments

AC Combiner Panel

- Field wiring is neatly routed inside
- Field wiring terminations are tight.
- Wire identified with permanent markers/labels.
- Verify fuses are installed (when fuses are used)
- Verify fuse type/C.B and rating conform to one line (when used)
- Ground wire is securely attached
- Conduit connections are tight and bushings used if applicable
- Box cover is secure and tight
- labels in place
- Confirm values on label conform to one line
- Locking Seal installed if readily accessible
- Properly accessible and lockable

Pass	Fail	Fixed/Comments

AC Combiner Main Panel

- Field wiring is neatly routed inside
- Field wiring terminations are tight.
- Wire identified with permanent markers/labels.
- Verify fuse type/C.B and rating conform to one line (when used)
- Ground wire is securely attached
- Conduit connections are tight and bushings used if applicable
- Box cover is secure and tight
- labels in place
- Confirm values on label conform to one line
- Locking Seal installed if readily accessible
- Properly accessible and lockable

Pass	Fail	Fixed/Comments

kWh Meter

- Field wiring is neatly routed inside
- Field wiring terminations are tight.
- Wire identified with permanent markers/labels.
- Labeled as solar meter

Pass	Fail	Fixed/Comments

- Record kW/h
- Conduit connections are tight and bushings used if applicable
- Box cover is secure and tight

Inverters

- Working and ventilation Clearances per manufacture's specs
- Polarity correct for inverter connections
- Confirm Grounding Electrode Conductor lands on inverter
- verify inverter time and date are set correctly
- Record model # and Serial number of inverter
- Model #:
- Model #:
- Model #:
- Model #:
- Model #:
- Model #:
- Label with date installation
- Label warning

Pass	Fail	Fixed/Comments

Serial#:

Serial#:

Serial#:

Serial#:

Serial#:

Data Acquisition System

- Network connection confirmed
- Record Serial number of data logger
- Irradiance meter installed at same plane as array
- Weather station installed & connected properly
- Verify remote access

Pass	Fail	Fixed/Comments

Others

- Drawings inside MDBs
- Clean site

Pass	Fail	Fixed/Comments

Measurements of AC Circuits before turning on

- Verify proper AC Volt at disconnect
- Line 1 to Neutral
- Line 2 to Neutral
- Line 3 to Neutral
- Line 1 to 2
- Line 2 to 3
- Line 3 to 1
- Phase rotation

Pass	Fail	Fixed/Comments

Measurements of DC Strings at combiner box

*Measure the Voc at the DC combiner box for each string

*Check polarity, Isc

Measurement done under the following conditions

Time:

Irradiance:

Temperature

Sky Condition:

Inverter # String Number	Voc	Isc
1		
2		
3		
4		
5		

Inverter # String Number	Voc	Isc
1		
2		
3		
4		

Training details	
Maintenance plan	

General Terms and Conditions for Services

1.0 LEGAL STATUS

The Contractor shall be considered as having the legal status of an independent contractor with Egypt-PV. The Contractor's personnel and sub-contractors shall not be considered in any respect as being the employees or agents of UNDP or the United Nations.

2.0 SOURCE OF INSTRUCTIONS:

The Contractor shall neither seek nor accept instructions from any authority external to Egypt-PV in connection with the performance of its services under this Contract. The Contractor shall refrain from any action that may adversely affect Egypt-PV or the United Nations and shall fulfill its commitments with the fullest regard to the interests of UNDP.

3.0 CONTRACTOR'S RESPONSIBILITY FOR EMPLOYEES:

The Contractor shall be responsible for the professional and technical competence of its employees and will select, for work under this Contract, reliable individuals who will perform effectively in the implementation of this Contract, respect the local customs, and conform to a high standard of moral and ethical conduct.

4.0 ASSIGNMENT:

The Contractor shall not assign, transfer, pledge or make other disposition of this Contract or any part thereof, or any of the Contractor's rights, claims or obligations under this Contract except with the prior written consent of Egypt-PV.

5.0 SUB-CONTRACTING:

In the event the Contractor requires the services of sub-contractors, the Contractor shall obtain the prior written approval and clearance of Egypt-PV for all sub-contractors. The approval of Egypt-PV of a sub-contractor shall not relieve the Contractor of any of its obligations under this Contract. The terms of any sub-contract shall be subject to and conform to the provisions of this Contract.

6.0 OFFICIALS NOT TO BENEFIT:

The Contractor warrants that no official of Egypt-PV or the United Nations has received or will be offered by the Contractor any direct or indirect benefit arising from this Contract or the award thereof. The Contractor agrees that breach of this provision is a breach of an essential term of this Contract.

7.0 INDEMNIFICATION:

The Contractor shall indemnify, hold and save harmless, and defend, at its own expense, Egypt-PV, its officials, agents, servants and employees from and against all suits, claims, demands, and liability of any nature or kind, including their costs and expenses, arising out of acts or omissions of the Contractor, or the Contractor's employees, officers, agents or sub-contractors, in the performance of this Contract. The obligations under this Article do not lapse upon termination of this Contract.

8.0 INSURANCE AND LIABILITIES TO THIRD PARTIES:

8.1 The Contractor shall provide and thereafter maintain insurance against all risks in respect of its property and any equipment used for the execution of this Contract.

8.2 The Contractor shall provide and thereafter maintain all appropriate workmen's compensation insurance, or the equivalent, with respect to its employees to cover claims for personal injury or death in connection with this Contract.

8.3 The Contractor shall also provide and thereafter maintain liability insurance in an adequate amount to cover third party claims for death or bodily injury, or loss of or damage to property, arising from or in connection with the provision of services under this Contract or the operation of any vehicles, boats, airplanes or other equipment owned or leased by the Contractor or its agents, servants, employees or sub-contractors performing work or services in connection with this Contract.

9.0 ENCUMBRANCES/LIENS:

The Contractor shall not cause or permit any lien, attachment or other encumbrance by any person to be placed on file or to remain on file in any public office or on file with the Egypt-PV against any monies due or to become due for any work done or materials furnished under this Contract, or by reason of any other claim or demand against the Contractor.

10.0 TITLE TO EQUIPMENT:

Title to any equipment and supplies that may be furnished by Egypt-PV shall rest with UNDP and any such equipment shall be returned to Egypt-PV at the conclusion of this Contract or when no longer needed by the Contractor. Such equipment, when returned to Egypt-PV, shall be in the same condition as when delivered to the Contractor, subject to normal wear and tear. The Contractor shall be liable to compensate Egypt-PV for equipment determined to be damaged or degraded beyond normal wear and tear.

11.0 COPYRIGHT, PATENTS AND OTHER PROPRIETARY RIGHTS:

11.1 Except as is otherwise expressly provided in writing in the Contract, the Egypt-PV shall be entitled to all intellectual property and other proprietary rights including, but not limited to, patents, copyrights, and trademarks, with regard to products, processes, inventions, ideas, know-how, or documents and other materials which the Contractor has developed for the Egypt-PV under the Contract and which bear a direct relation to or are produced or prepared or collected in consequence of, or during the course of, the performance of the Contract, and the Contractor acknowledges and agrees that such products, documents and other materials constitute works made for hire for Egypt-PV.

11.2 To the extent that any such intellectual property or other proprietary rights consist of any intellectual property or other proprietary rights of the Contractor: (i) that pre-existed the performance by the Contractor of its obligations under the Contract, or (ii) that the Contractor may develop or acquire, or may have developed or acquired, independently of the performance of its obligations under the Contract, Egypt-PV does not and shall not claim any ownership interest thereto, and the Contractor grants to Egypt-PV a perpetual license to use such intellectual property or other proprietary right solely for the purposes of and in accordance with the requirements of the Contract.

11.3 At the request of Egypt-PV; the Contractor shall take all necessary steps, execute all necessary documents and generally assist in securing such proprietary rights and transferring or licensing them to Egypt-PV in compliance with the requirements of the applicable law and of the Contract.

11.4 Subject to the foregoing provisions, all maps, drawings, photographs, mosaics, plans, reports, estimates, recommendations, documents, and all other data compiled by or received by the Contractor under the Contract shall be the property of Egypt-PV, shall be made available for use or inspection by Egypt-PV at reasonable times and in reasonable places, shall be treated as confidential, and shall be delivered only to Egypt-PV authorized officials on completion of work under the Contract.

12.0 USE OF NAME, EMBLEM OR OFFICIAL SEAL OF UNDP OR THE UNITED NATIONS:

The Contractor shall not advertise or otherwise make public the fact that it is a Contractor with Egypt-PV, nor shall the Contractor, in any manner whatsoever use the name, emblem or official seal of Egypt-PV or THE United Nations, or any abbreviation of the name of UNDP or United Nations in connection with its business or otherwise.

13.0 CONFIDENTIAL NATURE OF DOCUMENTS AND INFORMATION:

Information and data that is considered proprietary by either party and that is delivered or disclosed by one Party (“Discloser”) to the other Party (“Recipient”) during the course of performance of the Contract, and that is designated as confidential (“Information”), shall be held in confidence by that Party and shall be handled as follows:

13.1 The recipient (“Recipient”) of such information shall:

13.1.1 use the same care and discretion to avoid disclosure, publication or dissemination of the Discloser’s Information as it uses with its own similar information that it does not wish to disclose, publish or disseminate; and,

13.1.2 use the Discloser’s Information solely for the purpose for which it was disclosed.

13.2 Provided that the Recipient has a written agreement with the following persons or entities requiring them to treat the Information confidential in accordance with the Contract and this Article 13, the Recipient may disclose Information to:

13.2.1 any other party with the Discloser’s prior written consent; and,

13.2.2 The Recipient’s employees, officials, representatives and agents who have a need to know such Information for purposes of performing obligations under the Contract, and employees’ officials, representatives and agents of any legal entity that it controls it, or with which it is under common control, who have a need to know such Information for purposes of performing obligations under the Contract, provided that, for these purposes a controlled legal entity means:

13.2.2.1 A corporate entity in which the Party owns or otherwise controls, whether directly or indirectly, over fifty percent (50%) of voting shares thereof; or,

13.2.2.2 Any entity over which the Party exercises effective managerial control; or,

13.2.2.3 for Egypt-PV, an affiliated Fund such as UNCDF, UNIFEM and UNV.

13.3 The Contractor may disclose Information to the extent required by law, provided that, subject to and without any waiver of the privileges and immunities of the United Nations, the Contractor will give Egypt-PV sufficient prior notice of a request for the disclosure of Information in order to allow Egypt-PV to have a reasonable opportunity to take protective measures or such other action as may be appropriate before any such disclosure is made.

13.4 Egypt-PV may disclose Information to the extent as required pursuant to the Charter of the UN, resolutions or regulations of the General Assembly, or rules promulgated by the Secretary-General.

13.5 The Recipient shall not be precluded from disclosing Information that is obtained by the Recipient from a third party without restriction, is disclosed by the Discloser to a third party without any obligation of confidentiality, is previously known by the Recipient, or at any time is developed by the Recipient completely independently of any disclosures hereunder.

13.6 These obligations and restrictions of confidentiality shall be effective during the term of the Contract, including any extension thereof, and, unless otherwise provided in the Contract, shall remain effective following any termination of the Contract.

14.0 FORCE MAJEURE; OTHER CHANGES IN CONDITIONS

14.1 In the event of and as soon as possible after the occurrence of any cause constituting force majeure, the Contractor shall give notice and full particulars in writing to the EGYPT-PV, of such occurrence or change if the Contractor is thereby rendered unable, wholly or in part, to perform its obligations and meet its responsibilities under this Contract. The Contractor shall also notify Egypt-PV of any other changes in conditions or the occurrence of any event that interferes or threatens to interfere with its performance of this Contract. On receipt of the notice required under this Article, Egypt-PV shall take such action as, in its sole discretion; it considers to be appropriate or necessary in the circumstances, including the granting to the Contractor of a reasonable extension of time in which to perform its obligations under this Contract.

14.2 If the Contractor is rendered permanently unable, wholly, or in part, by reason of force majeure to perform its obligations and meet its responsibilities under this Contract, Egypt-PV shall have the right to suspend or terminate this Contract on the same terms and conditions as are provided for in Article 15, "Termination", except that the period of notice shall be seven (7) days instead of thirty (30) days.

14.3 Force majeure as used in this Article means acts of God, war (whether declared or not), invasion, revolution, insurrection, or other acts of a similar nature or force.

The Contractor acknowledges and agrees that, with respect to any obligations under the Contract that the Contractor must perform in or for any areas in which Egypt-PV is engaged in, preparing to engage in, or disengaging from any peacekeeping, humanitarian or similar operations, any delays or failure to perform such obligations arising from or relating to harsh conditions within such areas or to any incidents of civil unrest occurring in such areas shall not, in and of itself, constitute force majeure under the Contract..

15.0 TERMINATION

15.1 Either party may terminate this Contract for cause, in whole or in part, upon thirty (30) days' notice, in writing, to the other party. The initiation of arbitral proceedings in accordance with Article 16.2 ("Arbitration"), below, shall not be deemed a termination of this Contract.

15.2 Egypt-PV reserves the right to terminate without cause this Contract at any time upon 15 days prior written notice to the Contractor, in which case Egypt-PV shall reimburse the Contractor for all reasonable costs incurred by the Contractor prior to receipt of the notice of termination.

15.3 In the event of any termination by Egypt-PV under this Article, no payment shall be due from Egypt-PV to the Contractor except for work and services satisfactorily performed in conformity with the express terms of this Contract.

15.4 Should the Contractor be adjudged bankrupt, or be liquidated or become insolvent, or should the Contractor make an assignment for the benefit of its creditors, or should a Receiver be appointed on account of the insolvency of the Contractor, Egypt-PV may, without prejudice to any other right or remedy it may have under the terms of these conditions, terminate this Contract forthwith. The Contractor shall immediately inform Egypt-PV of the occurrence of any of the above events.

16.0 SETTLEMENT OF DISPUTES

16.1 Amicable Settlement: The Parties shall use their best efforts to settle amicably any dispute, controversy or claim arising out of this Contract or the breach, termination or invalidity thereof. Where the parties wish to seek such an amicable settlement through conciliation, the conciliation shall take place in accordance with the UNCITRAL Conciliation Rules then obtaining, or according to such other procedure as may be agreed between the parties.

16.2 Arbitration: Any dispute, controversy, or claim between the Parties arising out of the Contract or the breach, termination, or invalidity thereof, unless settled amicably under Article 16.1, above, within sixty (60) days after receipt by one Party of the other Party's written request for such amicable settlement, shall be referred by either Party to arbitration in accordance with the UNCITRAL Arbitration Rules then obtaining. The decisions of the arbitral tribunal shall be based on general principles of international commercial law.

17.0 PRIVILEGES AND IMMUNITIES:

Nothing in or relating to this Contract shall be deemed a waiver, express or implied, of any of the privileges and immunities of the United Nations, including its subsidiary organs.

18.0 TAX EXEMPTION

18.1 Section 7 of the Convention on the Privileges and Immunities of the United Nations provides, inter-alia that the United Nations, including its subsidiary organs, is exempt from all direct taxes, except charges for public utility services, and is exempt from customs duties and charges of a similar nature in respect of articles imported or exported for its official use. In the event any governmental authority refuses to recognize the United Nations exemption from such taxes, duties or charges, the Contractor shall immediately consult with the EGYPT-PV to determine a mutually acceptable procedure.

18.2 Accordingly, the Contractor authorizes EGYPT-PV to deduct from the Contractor's invoice any amount representing such taxes, duties or charges, unless the Contractor has consulted with the EGYPT-PV before the payment thereof and the EGYPT-PV has, in each instance, specifically authorized the Contractor to pay such taxes, duties or charges under protest. In that event, the Contractor shall provide the EGYPT-PV with written evidence that payment of such taxes, duties or charges has been made and appropriately authorized.

19.0 CHILD LABOUR

19.1 The Contractor represents and warrants that neither it, nor any of its suppliers is engaged in any practice inconsistent with the rights set forth in the Convention on the Rights of the Child, including Article 32 thereof, which, inter alia, requires that a child shall be protected from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical mental, spiritual, moral or social development.

19.2 Any breach of this representation and warranty shall entitle EGYPT-PV to terminate this Contract immediately upon notice to the Contractor, at no cost to EGYPT-PV.

20.0 MINES:

20.1 The Contractor represents and warrants that neither it nor any of its suppliers is actively and directly engaged in patent activities, development, assembly, production, trade or manufacture of mines or in such activities in respect of components primarily utilized in the manufacture of Mines. The term "Mines" means those devices defined in Article 2, Paragraphs 1, 4 and 5 of Protocol II annexed to the Convention on Prohibitions and Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects of 1980.

20.2 Any breach of this representation and warranty shall entitle EGYPT-PV to terminate this Contract immediately upon notice to the Contractor, without any liability for termination charges or any other liability of any kind of EGYPT-PV.

21.0 OBSERVANCE OF THE LAW:

The Contractor shall comply with all laws, ordinances, rules, and regulations bearing upon the performance of its obligations under the terms of this Contract.

22.0 SEXUAL EXPLOITATION:

22.1 The Contractor shall take all appropriate measures to prevent sexual exploitation or abuse of anyone by it or by any of its employees or any other persons who may be engaged by the Contractor to perform any services under the Contract. For these purposes, sexual activity with any person less than eighteen years of age, regardless of any laws relating to consent, shall constitute the sexual exploitation and abuse of such person. In addition, the Contractor shall refrain from, and shall take all appropriate measures to prohibit its employees or other persons engaged by it from, exchanging any money, goods, services, offers of employment or other things of value, for sexual favors or activities, or from engaging in any sexual activities that are exploitive or degrading to any person. The Contractor acknowledges and agrees that the provisions hereof constitute an essential term of the Contract and that any breach of this representation and warranty shall entitle EGYPT-PV to terminate the Contract immediately upon notice to the Contractor, without any liability for termination charges or any other liability of any kind.

22.2 The EGYPT-PV shall not apply the foregoing standard relating to age in any case in which the Contractor's personnel or any other person who may be engaged by the Contractor to perform any services under the Contract is married to the person less than the age of eighteen years with whom sexual activity has occurred and in which such marriage is recognized as valid under the laws of the country of citizenship of such Contractor's personnel or such other person who may be engaged by the Contractor to perform any services under the Contract.

23.0 AUTHORITY TO MODIFY:

Pursuant to the Financial Regulations and Rules of UNDP, only the UNDP Authorized Official possesses the authority to agree on behalf of UNDP to any modification of or change in this Contract, to a waiver of any of its provisions or to any additional contractual relationship of any kind with the Contractor. Accordingly, no modification or change in this Contract shall be valid and enforceable against UNDP unless provided by an amendment to this Contract signed by the Contractor and jointly by the UNDP Authorized Official.