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REQUEST FOR PROPOSAL

**Development of Software, Supply and Delivery of Hardware
for the Implementation of Philippine Renewable Energy
Market System (PREMS)**

RFP No.: **PHL-RFP-2018-036**

Project: **Development for Renewable Energy Applications Mainstreaming and
Market Sustainability (DREAMS)**

Country: **Philippines**

Issued on: **30 April 2018**

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Section 1. Letter of Invitation

The United Nations Development Programme (UNDP) hereby invites you to submit a Proposal to this Request for Proposal (RFP) for the above-referenced subject.

This RFP includes the following documents and the General Terms and Conditions of Contract which is inserted in the Bid Data Sheet (BDS):

- Section 1: This Letter of Invitation
- Section 2: Instruction to Bidders
- Section 3: Bid Data Sheet (BDS)
- Section 4: Evaluation Criteria
- Section 5: Terms of Reference
- Section 6: Returnable Bidding Forms
 - o Form A: Technical Proposal Submission Form
 - o Form B: Bidder Information Form
 - o Form C: Joint Venture/Consortium/Association Information Form
 - o Form D: Qualification Form
 - o Form E: Format of Technical Proposal
 - o Form F: Financial Proposal Submission Form
 - o Form G: Financial Proposal Form
 - o Form H: Form of Proposal Security
 - o Form I: Warranty Certificate

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

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

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

Issued by:

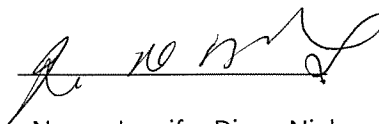


Name: Jack Paul Agonia

Title: Procurement Assistant

Date: April 30, 2018

Approved by:



Name: Jennifer Diane Nielsen

Title: Procurement Specialist

Date: April 30, 2018

Section 2. Instruction to Bidders

A. GENERAL PROVISIONS

Introduction

- 1.1 Bidders shall adhere to all the requirements of this RFP, including any amendments in writing by UNDP. This RFP is conducted in accordance with the UNDP Programme and Operations Policies and Procedures (POPP) on Contracts and Procurement which can be accessed at <https://popp.undp.org/SitePages/POPPBSUnit.aspx?TermID=254a9f96-b883-476a-8ef8-e81f93a2b38d>
- 1.2 Any Proposal submitted will be regarded as an offer by the Bidder and does not constitute or imply the acceptance of the Proposal by UNDP. UNDP is under no obligation to award a contract to any Bidder as a result of this RFP.
- 1.3 As part of the bid, it is desired that the Bidder registers at the United Nations Global Marketplace (UNGM) website (www.ungm.org). The Bidder may still submit a bid even if not registered with the UNGM. However, if the Bidder is selected for contract award, the Bidder must register on the UNGM prior to contract signature.

Fraud & Corruption, Gifts and Hospitality

- 1.4 UNDP strictly enforces a policy of zero tolerance on proscribed practices, including fraud, corruption, collusion, unethical or unprofessional practices, and obstruction of UNDP vendors and requires all bidders/vendors observe the highest standard of ethics during the procurement process and contract implementation. UNDP's Anti-Fraud Policy can be found at http://www.undp.org/content/undp/en/home/operations/accountability/audit/office_of_audit_and_investigation.html#anti
- 1.5 Bidders/vendors shall not offer gifts or hospitality of any kind to UNDP staff members including recreational trips to sporting or cultural events, theme parks or offers of holidays, transportation, or invitations to extravagant lunches or dinners.
- 1.6 In pursuance of this policy, UNDP
 - (a) Shall reject a proposal if it determines that the selected bidder has engaged in any corrupt or fraudulent practices in competing for the contract in question;
 - (b) Shall declare a vendor ineligible, either indefinitely or for a stated period of time, to be awarded a contract if at any time it determines that the vendor has engaged in any corrupt or fraudulent practices in competing for, or in executing a UNDP contract.
- 1.7 All Bidders must adhere to the UN Supplier Code of Conduct, which may be found at http://www.un.org/depts/ptd/pdf/conduct_english.pdf

Eligibility

- 1.8 A vendor should not be suspended, debarred, or otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization. Vendors are therefore required to disclose to UNDP whether they are subject to any sanction or temporary suspension imposed by these organizations.
- 1.9 It is the Bidder's responsibility to ensure that its employees, joint venture members, sub-contractors, service providers, suppliers and/or their employees meet the eligibility requirements as established by UNDP.

<i>Conflict of Interests</i>	<p>1.10 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 UNDP to provide services for the preparation of the design, specifications, Terms of Reference, cost analysis/estimation, and other documents to be used for the procurement of the goods and services in this selection process; b) Were involved in the preparation and/or design of the programme/project related to the services requested under this RFP; or c) Are found to be in conflict for any other reason, as may be established by, or at the discretion of UNDP. <p>1.11 In the event of any uncertainty in the interpretation of a potential conflict of interest, Bidders must disclose to UNDP, and seek UNDP's confirmation on whether or not such a conflict exists.</p> <p>1.12 Similarly, the Bidders must disclose in their proposal 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 are family members of UNDP staff involved in the procurement functions and/or the Government of the country or any Implementing Partner receiving services under this RFP; and b) All other circumstances that could potentially lead to actual or perceived conflict of interest, collusion or unfair competition practices. <p>Failure to disclose such an information may result in the rejection of the proposal or proposals affected by the non-disclosure.</p> <p>1.13 The eligibility of Bidders that are wholly or partly owned by the Government shall be subject to UNDP's further evaluation and review of various factors such as being registered, operated and managed as an independent business entity, the extent of Government ownership/share, receipt of subsidies, mandate and access to information in relation to this RFP, among others. Conditions that may lead to undue advantage against other Bidders may result in the eventual rejection of the Proposal.</p>
B. PREPARATION OF PROPOSALS	
<i>General Considerations</i>	<p>1.14 In preparing the Proposal, the Bidder is expected to examine the RFP in detail. Material deficiencies in providing the information requested in the RFP may result in rejection of the Proposal.</p> <p>1.15 The Bidder will not be permitted to take advantage of any errors or omissions in the RFP. Should such errors or omissions be discovered, the Bidder must notify the UNDP</p>
<i>Cost of Preparation of Proposal</i>	<p>1.16 The Bidder shall bear any and all costs related to the preparation and/or submission of the Proposal, regardless of whether its Proposal was selected or not. UNDP shall not be responsible or liable for those costs, regardless of the conduct or outcome of the procurement process.</p>
<i>Language</i>	<p>1.17 The Proposal, as well as any and all related correspondence exchanged by the Bidder and UNDP, shall be written in the language (s) specified in the BDS.</p>
<i>Documents Comprising the</i>	<p>1.18 The Proposal shall comprise of the following documents:</p>

<i>Proposal</i>		<ul style="list-style-type: none"> a) Documents Establishing the Eligibility and Qualifications of the Bidder; b) Technical Proposal; c) Financial Proposal; d) Proposal Security, if required by BDS; e) Any attachments and/or appendices to the Proposal.
<i>Documents Establishing the Eligibility and Qualifications of the Bidder</i>	1.19	The Bidder shall furnish documentary evidence of its status as an eligible and qualified vendor, using the Forms provided under Section 6 and providing documents required in those forms. In order to award a contract to a Bidder, its qualifications must be documented to UNDP's satisfaction.
<i>Technical Proposal Format and Content</i>	1.20	The Bidder is required to submit a Technical Proposal using the Standard Forms and templates provided in Section 6 of the RFP.
	1.21	The Technical Proposal shall not include any price or financial information. A Technical Proposal containing material financial information may be declared non-responsive.
	1.22	Samples of items, when required as per Section 5, shall be provided within the time specified and unless otherwise specified by UNDP, and at no expense to UNDP
	1.23	When applicable and required as per Section 5, the Bidder shall describe the necessary training programme available for the maintenance and operation of the services and/or equipment offered as well as the cost to the UNDP. Unless otherwise specified, such training as well as training materials shall be provided in the language of the Bid as specified in the BDS.
<i>Financial Proposals</i>	1.24	The Financial Proposal shall be prepared using the Standard Form provided in Section 6 of the RFP. It shall list all major cost components associated with the services, and the detailed breakdown of such costs.
	1.25	Any output and activities described in the Technical Proposal but not priced in the Financial Proposal, shall be assumed to be included in the prices of other activities or items, as well as in the final total price.
	1.26	Prices and other financial information must not be disclosed in any other place except in the financial proposal.
<i>Proposal Security</i>	1.27	A Proposal Security, if required by BDS, shall be provided in the amount and form indicated in the BDS. The Proposal Security shall be valid up to thirty (30) days after the final date of validity of the Proposal.
	1.28	The Proposal Security shall be included along with the Technical Proposal. If Proposal Security is required by the RFP but is not found along with the Technical Proposal, the Proposal shall be rejected.
	1.29	If the Proposal Security amount or its validity period is found to be less than what is required by UNDP, UNDP shall reject the Proposal.
	1.30	In the event an electronic submission is allowed in the BDS, Bidders shall include a copy of the Bid Security in their proposal and the original of the Proposal Security must be sent via courier or hand delivery as per the instructions in BDS.
	1.31	<p>The Proposal Security may be forfeited by UNDP, and the Proposal rejected, in the event of any one or combination, of the following conditions:</p> <ul style="list-style-type: none"> a) If the Bidder withdraws its offer during the period of the Proposal Validity specified in the BDS, or; b) In the event that the successful Bidder fails: <ul style="list-style-type: none"> i. to sign the Contract after UNDP has issued an award; or

	1.32	to furnish the Performance Security, insurances, or other documents that UNDP may require as a condition precedent to the effectivity of the contract that may be awarded to the Bidder.
<i>Currencies</i>	1.33	<p>All prices shall be quoted in the currency or currencies indicated in the BDS. Where Proposals are quoted in different currencies, for the purposes of comparison of all Proposals:</p> <p>a) UNDP will convert the currency quoted in the Proposal into the UNDP preferred currency, in accordance with the prevailing UN operational rate of exchange on the last day of submission of Proposals; and</p> <p>b) In the event that UNDP selects a proposal for award that is quoted in a currency different from the preferred currency in the BDS, UNDP shall reserve the right to award the contract in the currency of UNDP's preference, using the conversion method specified above.</p>
<i>Joint Venture, Consortium or Association</i>	1.34	If the Bidder is a group of legal entities that will form or have formed a Joint Venture (JV), Consortium or Association for the Proposal, they shall confirm in their Proposal 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 Proposal; and (ii) if they are awarded the contract, the contract shall be entered into, by and between UNDP and the designated lead entity, who shall be acting for and on behalf of all the member entities comprising the joint venture.
	1.35	After the Deadline for Submission of Proposal, the lead entity identified to represent the JV, Consortium or Association shall not be altered without the prior written consent of UNDP.
	1.36	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 proposal.
	1.37	The description of the organization of the JV, Consortium or Association must clearly define the expected role of each of the entity in the joint venture in delivering the requirements of the RFP, both in the Proposal and the JV, Consortium or Association Agreement. All entities that comprise the JV, Consortium or Association shall be subject to the eligibility and qualification assessment by UNDP.
	1.38	<p>A JV, Consortium or Association in presenting its track record and experience should clearly differentiate between:</p> <p>a) Those that were undertaken together by the JV, Consortium or Association; and</p> <p>b) Those that were undertaken by the individual entities of the JV, Consortium or Association.</p>
	1.39	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.
	1.40	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.

<i>Only One Proposal</i>	1.41	The Bidder (including the individual members of any Joint Venture) shall submit only one Proposal, either in its own name or as part of a Joint Venture.
	1.42	Proposals submitted by two (2) or more Bidders shall all be rejected if they are found to have any of the following: <ul 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 RFP; 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 Proposal of, another Bidder regarding this RFP process; e) they are subcontractors to each other's Proposal, or a subcontractor to one Proposal also submits another Proposal under its name as lead Bidder; or f) some key personnel proposed to be in the team of one Bidder participates in more than one Proposal received for this RFP process. This condition relating to the personnel, does not apply to subcontractors being included in more than one Proposal.
<i>Proposal Validity Period</i>	1.43	Proposals shall remain valid for the period specified in the BDS, commencing on the Deadline for Submission of Proposals. A Proposal valid for a shorter period may be rejected by UNDP and rendered non-responsive.
	1.44	During the Proposal validity period, the Bidder shall maintain its original Proposal without any change, including the availability of the Key Personnel, the proposed rates and the total price.
<i>Extension of Proposal Validity Period</i>	1.45	In exceptional circumstances, prior to the expiration of the proposal validity period, UNDP may request Bidders to extend the period of validity of their Proposals. The request and the responses shall be made in writing, and shall be considered integral to the Proposal.
	1.46	If the Bidder agrees to extend the validity of its Proposal, it shall be done without any change in the original Proposal.
	1.47	The Bidder has the right to refuse to extend the validity of its Proposal, and in which case, such Proposal will not be further evaluated.
<i>Clarification of Proposal</i>	1.48	Bidders may request clarifications on any of the RFP documents no later than the date indicated in the BDS. Any request for clarification must be sent in writing in the manner indicated in the BDS. If inquiries are sent other than specified channel, even if they are sent to a UNDP staff member, UNDP shall have no obligation to respond or confirm that the query was officially received.
	1.49	UNDP will provide the responses to clarifications through the method specified in the BDS.
	1.50	UNDP shall endeavor to provide responses to clarifications in an expeditious manner, but any delay in such response shall not cause an obligation on the part of UNDP to extend the submission date of the Proposals, unless UNDP deems that such an extension is justified and necessary.
<i>Amendment of Proposals</i>	1.51	At any time prior to the deadline of Proposal submission, UNDP may for any reason, such as in response to a clarification requested by a Bidder, modify the RFP in the form of an amendment to the RFP. Amendments will be made available to all prospective bidders.

	1.52	If the amendment is substantial, UNDP may extend the Deadline for submission of proposal to give the Bidders reasonable time to incorporate the amendment into their Proposals.
<i>Alternative Proposals</i>	1.53	Unless otherwise specified in the BDS, alternative proposals shall not be considered. If submission of alternative proposal is allowed by BDS, a Bidder may submit an alternative proposal, but only if it also submits a proposal conforming to the RFP requirements. UNDP shall only consider the alternative proposal offered by the Bidder whose conforming proposal ranked the highest as per the specified evaluation method. Where the conditions for its acceptance are met, or justifications are clearly established, UNDP reserves the right to award a contract based on an alternative proposal.
	1.54	If multiple/alternative proposals are being submitted, they must be clearly marked as "Main Proposal" and "Alternative Proposal"
<i>Pre-Bid Conference</i>	1.55	When appropriate, a Bidder's conference will be conducted at the date, time and location specified in the BDS. All Bidders are encouraged to attend. Non-attendance, however, shall not result in disqualification of an interested Bidder. Minutes of the Bidder's conference will be disseminated on the procurement website and shared by email or on the e-Tendering platform as specified in the BDS. No verbal statement made during the conference shall modify the terms and conditions of the RFP, unless specifically incorporated in the Minutes of the Bidder's Conference or issued/posted as an amendment to RFP.

C. SUBMISSION AND OPENING OF PROPOSALS

<i>Submission</i>	1.56	The Bidder shall submit a duly signed and complete Proposal comprising the documents and forms in accordance with the requirements in the BDS. The submission shall be in the manner specified in the BDS.
	1.57	The Proposal 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 Proposal.
	1.58	Bidders must be aware that the mere act of submission of a Proposal, in and of itself, implies that the Bidder fully accepts the UNDP General Contract Terms and Conditions.
Hard copy (manual) submission	1.59	Hard copy (manual) submission by courier or hand delivery allowed or specified in the BDS shall be governed as follows: <ul style="list-style-type: none"> a) The signed Proposal shall be marked "Original", and its copies marked "Copy" as appropriate. The number of copies is indicated in the BDS. All copies shall be made from the signed original only. If there are discrepancies between the original and the copies, the original shall prevail. b) The Technical Proposal and the Financial Proposal envelopes MUST BE COMPLETELY SEPARATE and each of them must be submitted sealed individually and clearly marked on the outside as either "TECHNICAL PROPOSAL" or "FINANCIAL PROPOSAL", as appropriate. Each envelope SHALL clearly indicate the name of the Bidder. The outer envelopes shall: <ul style="list-style-type: none"> i. Bear the name and address of the bidder; ii. Be addressed to UNDP as specified in the BDS iii. Bear a warning that states "<i>Not to be opened before the time and date for proposal opening</i>" as specified in the BDS.

		<p>If the envelopes and packages with the Proposal are not sealed and marked as required, UNDP shall assume no responsibility for the misplacement, loss, or premature opening of the Proposal.</p>
Email Submission	1.60	<p>Email submission, if allowed or specified in the BDS, shall be governed as follows:</p> <ul style="list-style-type: none"> a) Electronic files that form part of the proposal must be in accordance with the format and requirements indicated in BDS; b) The Technical Proposal and the Financial Proposal files MUST BE COMPLETELY SEPARATE. The financial proposal shall be encrypted with different passwords and clearly labelled. The files must be sent to the dedicated email address specified in the BDS. c) The password for opening the Financial Proposal should be provided only upon request of UNDP. UNDP will request password only from bidders whose Technical Proposal has been found to be technically responsive. Failure to provide correct password may result in the proposal being rejected.
eTendering submission	1.61	<p>Electronic submission through eTendering, if allowed or specified in the BDS, shall be governed as follows:</p> <ul style="list-style-type: none"> a) Electronic files that form part of the proposal must be in accordance with the format and requirements indicated in BDS; b) The Technical Proposal and the Financial Proposal files MUST BE COMPLETELY SEPARATE and each of them must be uploaded individually and clearly labelled. d) The Financial Proposal file must be encrypted with a password so that it cannot be opened nor viewed until the password is provided. The password for opening the Financial Proposal should be provided only upon request of UNDP. UNDP will request password only from bidders whose technical proposal has been found to be technically responsive. Failure to provide the correct password may result in the proposal being rejected. c) Documents which are required to be in original form (e.g. Bid Security, etc.) must be sent via courier or hand delivery as per the instructions in BDS. d) Detailed instructions on how to submit, modify or cancel a bid in the eTendering system are provided in the eTendering system Bidder User Guide and Instructional videos available on this link: http://www.undp.org/content/undp/en/home/operations/procurement/business/procurement-notices/resources/
Deadline for Submission of Proposals and Late Proposals	1.62	Complete Proposals must be received by UNDP in the manner, and no later than the date and time, specified in the BDS. UNDP shall only recognize the date and time that the bid was received by UNDP
	1.63	UNDP shall not consider any Proposal that is submitted after the deadline for the submission of Proposals.
Withdrawal, Substitution, and Modification of Proposals	1.64	A Bidder may withdraw, substitute or modify its Proposal after it has been submitted at any time prior to the deadline for submission.
	1.65	Manual and Email submissions: A bidder may withdraw, substitute or modify its Proposal by sending a written notice to UNDP, duly signed by an authorized representative, and shall include a copy of the authorization (or a Power of Attorney). The corresponding substitution or modification of the Proposal, if any, must accompany the respective written notice. All notices must be submitted in

	the same manner as specified for submission of proposals, by clearly marking them as "WITHDRAWAL" "SUBSTITUTION," or "MODIFICATION"
	1.66 eTendering: A Bidder may withdraw, substitute or modify its Proposal by Canceling, Editing, and re-submitting the proposal directly in the system. It is the responsibility of the Bidder to properly follow the system instructions, duly edit and submit a substitution or modification of the Proposal as needed. Detailed instructions on how to cancel or modify a Proposal directly in the system are provided in Bidder User Guide and Instructional videos.
	1.67 Proposals requested to be withdrawn shall be returned unopened to the Bidders (only for manual submissions), except if the bid is withdrawn after the bid has been opened
<i>Proposal Opening</i>	1.68 There is no public bid opening for RFPs. UNDP shall open the Proposals in the presence of an ad-hoc committee formed by UNDP, consisting of at least two (2) members. In the case of e-Tendering submission, bidders will receive an automatic notification once their proposal is opened.

D. EVALUATION OF PROPOSALS

<i>Confidentiality</i>	1.69 Information relating to the examination, evaluation, and comparison of Proposals, 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.
	1.70 Any effort by a Bidder or anyone on behalf of the Bidder to influence UNDP in the examination, evaluation and comparison of the Proposals or contract award decisions may, at UNDP's decision, result in the rejection of its Proposal and may be subject to the application of prevailing UNDP's vendor sanctions procedures.
<i>Evaluation of Proposals</i>	1.71 The Bidder is not permitted to alter or modify its Proposal in any way after the proposal submission deadline except as permitted under Clause 24 of this RFP. UNDP will conduct the evaluation solely on the basis of the submitted Technical and Financial Proposals.
	1.72 Evaluation of proposals is made of the following steps: <ul style="list-style-type: none"> a) Preliminary Examination b) Minimum Eligibility and Qualification (if pre-qualification is not done) c) Evaluation of Technical Proposals d) Evaluation of Financial Proposals
<i>Preliminary Examination</i>	1.73 UNDP shall examine the Proposals to determine whether they are complete with respect to minimum documentary requirements, whether the documents have been properly signed, and whether the Proposals are generally in order, among other indicators that may be used at this stage. UNDP reserves the right to reject any Proposal at this stage.
<i>Evaluation of Eligibility and Qualification</i>	1.74 Eligibility and Qualification of the Bidder will be evaluated against the Minimum Eligibility/Qualification requirements specified in the Section 4 (Evaluation Criteria).
	1.75 In general terms, vendors that meet the following criteria may be considered qualified: <ul style="list-style-type: none"> a) They are not included in the UN Security Council 1267/1989 Committee's list of terrorists and terrorist financiers, and in UNDP's ineligible vendors' list; b) They have a good financial standing and have access to adequate financial resources to perform the contract and all existing commercial commitments,

*Evaluation of
Technical and
Financial Proposals*

- c) They have the necessary similar experience, technical expertise, production capacity where applicable, quality certifications, quality assurance procedures and other resources applicable to the provision of the services required;
- d) They are able to comply fully with UNDP General Terms and Conditions of Contract;
- e) They do not have a consistent history of court/arbitral award decisions against the Bidder; and
- f) They have a record of timely and satisfactory performance with their clients.

- 1.76 The evaluation team shall review and evaluate the Technical Proposals on the basis of their responsiveness to the Terms of Reference and other RFP documents, applying the evaluation criteria, sub-criteria, and point system specified in the Section 4 (Evaluation Criteria). A Proposal shall be rendered non-responsive at the technical evaluation stage if it fails to achieve the minimum technical score indicated in the BDS. When necessary and if stated in the BDS, UNDP may invite technically responsive bidders for a presentation related to their technical proposals. The conditions for the presentation shall be provided in the bid document where required.
- 1.77 In the second stage, only the Financial Proposals of those Bidders who achieve the minimum technical score will be opened for evaluation. The Financial Proposals corresponding to Technical Proposals that were rendered non-responsive shall remain unopened, and, in the case of manual submission, be returned to the Bidder unopened. For emailed Proposals and e-tendering submissions, UNDP will not request for the password of the Financial Proposals of bidders whose Technical Proposal were found not responsive.
- 1.78 The evaluation method that applies for this RFP shall be as indicated in the BDS, which may be either of two (2) possible methods, as follows: (a) the lowest priced method which selects the lowest evaluated financial proposal of the technically responsive Bidders; or (b) the combined scoring method which will be based on a combination of the technical and financial score.
- 1.79 When the BDS specifies a combined scoring method, the formula for the rating of the Proposals will be as follows:

Rating the Technical Proposal (TP):

$$\text{TP Rating} = (\text{Total Score Obtained by the Offer} / \text{Max. Obtainable Score for TP}) \times 100$$

Rating the Financial Proposal (FP):

$$\text{FP Rating} = (\text{Lowest Priced Offer} / \text{Price of the Offer Being Reviewed}) \times 100$$

Total Combined Score:

$$\text{Combined Score} = (\text{TP Rating}) \times (\text{Weight of TP, e.g. 70\%}) + (\text{FP Rating}) \times (\text{Weight of FP, e.g., 30\%})$$

Due Diligence

- 1.80 UNDP reserves the right to undertake a due diligence exercise, also called post qualification, aimed at determining to its satisfaction, the validity of the information provided by the Bidder. Such exercise shall be fully documented and may include, but need not be limited to, all or any combination of the following:
- a) Verification of accuracy, correctness and authenticity of information

	provided by the Bidder;
	b) Validation of extent of compliance to the RFP 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 contracts completed, including physical inspections of previous works, as necessary;
	e) Physical inspection of the Bidder's offices, branches or other places where business transpires, with or without notice to the Bidder;
	f) Other means that UNDP may deem appropriate, at any stage within the selection process, prior to awarding the contract.
Clarification of Proposals	1.81 To assist in the examination, evaluation and comparison of Proposals, UNDP may, at its discretion, ask any Bidder for a clarification of its Proposal.
	1.82 UNDP's request for clarification and the response shall be in writing and no change in the prices or substance of the Proposal shall be sought, offered, or permitted, except to provide clarification, and confirm the correction of any arithmetic errors discovered by UNDP in the evaluation of the Proposals, in accordance with RFP.
	1.83 Any unsolicited clarification submitted by a Bidder in respect to its Proposal, which is not a response to a request by UNDP, shall not be considered during the review and evaluation of the Proposals.
Responsiveness of Proposal	1.84 UNDP's determination of a Proposal's responsiveness will be based on the contents of the Proposal itself. A substantially responsive Proposal is one that conforms to all the terms, conditions, TOR and other requirements of the RFP without material deviation, reservation, or omission.
	1.85 If a Proposal is not substantially responsive, it shall be rejected by UNDP and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation, or omission.
Nonconformities, Reparable Errors and Omissions	1.86 Provided that a Proposal is substantially responsive, UNDP may waive any non-conformities or omissions in the Proposal that, in the opinion of UNDP, do not constitute a material deviation.
	1.87 UNDP may request the Bidder to submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the Proposal related to documentation requirements. Such omission shall not be related to any aspect of the price of the Proposal. Failure of the Bidder to comply with the request may result in the rejection of its Proposal.
	1.88 For Financial Proposal that has been opened, UNDP shall check and correct arithmetical errors as follows: <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 UNDP there is an obvious misplacement of the decimal point in the unit price; in which case the line item total as quoted shall govern and the unit price shall be corrected; b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and

	<p>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> <p>1.89 If the Bidder does not accept the correction of errors made by UNDP, its Proposal shall be rejected.</p>
E. AWARD OF CONTRACT	
<i>Right to Accept, Reject, Any or All Proposals</i>	1.90 UNDP reserves the right to accept or reject any Proposal, to render any or all of the Proposals as non-responsive, and to reject all Proposals at any time prior to award of contract, without incurring any liability, or obligation to inform the affected Bidder(s) of the grounds for UNDP's action. UNDP shall not be obliged to award the contract to the lowest priced offer.
<i>Award Criteria</i>	1.91 Prior to expiration of the proposal validity, UNDP shall award the contract to the qualified Bidder based on the award criteria indicated in the BDS.
<i>Debriefing</i>	1.92 In the event that a Bidder is unsuccessful, the Bidder may request a debriefing from UNDP. The purpose of the debriefing is to discuss the strengths and weaknesses of the Bidder's submission, in order to assist the Bidder in improving its future proposals for UNDP procurement opportunities. The content of other proposals and how they compare to the Bidder's submission shall not be discussed.
<i>Right to Vary Requirements at the Time of Award</i>	1.93 At the time of award of Contract, UNDP reserves the right to vary 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.
<i>Contract Signature</i>	1.94 Within fifteen (15) days from the date of receipt of the Contract, the successful Bidder shall sign and date the Contract and return it to UNDP. Failure to do so may constitute sufficient grounds for the annulment of the award, and forfeiture of the Proposal Security, if any, and on which event, UNDP may award the Contract to the Second Ranked Bidder or call for new Proposals.
<i>Contract Type and General Terms and Conditions</i>	1.95 The types of Contract to be signed and the applicable UNDP Contract General Terms and Conditions, as specified in BDS, can be accessed at http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html
<i>Performance Security</i>	1.96 40.1 A performance security, if required in BDS, shall be provided in the amount specified in BDS and form available at https://popp.undp.org/layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PSU_Solicitation_Performance%20Guarantee%20Form.docx&action=default within fifteen (15) days of the contract signature by both parties. Where a performance security is required, the receipt of the performance security by UNDP shall be a condition for rendering the contract effective.
<i>Bank Guarantee for Advanced Payment</i>	1.97 Except when the interests of UNDP so require, it is UNDP's preference to make no advance payment(s) (i.e., payments without having received any outputs). If an advance payment is allowed as per BDS, and exceeds 20% of the total contract price, or USD 30,000, whichever is less, the Bidder shall submit a Bank Guarantee in the full amount of the advance payment in the form available at https://popp.undp.org/layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PSU_Contract%20Management%20Payment%20and%20Taxes_Advanced%20Payment%20Guarantee%20Form.docx&action=de

		<u>fault</u>
<i>Liquidated Damages</i>	1.98	If specified in BDS, UNDP shall apply Liquidated Damages resulting from the Contractor's delays or breach of its obligations as per the Contract.
<i>Payment Provisions</i>	1.99	Payment will be made only upon UNDP's acceptance of the work performed. The terms of payment shall be within thirty (30) days, after receipt of invoice and certification of acceptance of work issued by the proper authority in UNDP with direct supervision of the Contractor. Payment will be effected by bank transfer in the currency of contract.
<i>Vendor Protest</i>	1.100	UNDP's vendor protest procedure provides an opportunity for appeal to those persons or firms not awarded a contract through a competitive procurement process. In the event that a Bidder believes that it was not treated fairly, the following link provides further details regarding UNDP vendor protest procedures: http://www.undp.org/content/undp/en/home/operations/procurement/business/protest-and-sanctions.html
<i>Other Provisions</i>	1.101	In the event that the Bidder offers a lower price to the host Government (e.g. General Services Administration (GSA) of the federal government of the United States of America) for similar services, UNDP shall be entitled to same lower price. The UNDP General Terms and Conditions shall have precedence.
	1.102	UNDP is entitled to receive the same pricing offered by the same Contractor in contracts with the United Nations and/or its Agencies. The UNDP General Terms and Conditions shall have precedence.
	1.103	The United Nations has established restrictions on employment of (former) UN staff who have been involved in the procurement process as per bulletin ST/SGB/2006/15 http://www.un.org/en/ga/search/view_doc.asp?symbol=ST/SGB/2006/15&referer

Section 3. Bid Data Sheet

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

BDS No.	Ref. to Section.2	Data	Specific Instructions / Requirements
1	7	Language of the Proposal	English
2		Submitting Proposals for Parts or sub-parts of the TOR (partial bids)	Not Allowed
3	20	Alternative Proposals	Shall not be considered
4	21	Pre-proposal conference	<p>Will be Conducted</p> <p>Time: 10:00 to 11:00AM, Manila Time</p> <p>Date : Tuesday, 15 May 2018</p> <p>Venue : UNDP Conference Room</p> <p>The UNDP focal point for the arrangement is: Jack Paul Agonia</p> <p>Telephone: +639175983142</p> <p>E-mail: procurement.ph@undp.org</p> <p>Please confirm your attendance to the above.</p>
5	10	Proposal Validity Period	120 days
6	14	Bid Security	<p>Required in the amount of USD 2,500 or PHP 129,772.50</p> <p>Acceptable Forms of Bid Security</p> <ul style="list-style-type: none"> ▪ Bank Guarantee (See Section 8 for template) ▪ Any Bank-issued Check / Cashier's Check / Certified Check payable to USD - UNDP Representative to the Philippines USD Account <p>PHP - UNDP Representative Peso Account</p>

7	41	Advanced Payment upon signing of contract	Not applicable
8	42	Liquidated Damages	<p>Will be imposed as follows:</p> <p>Percentage of contract price per day of delay: .05% per day</p> <p>Max. number of days of delay: 30 days, after which UNDP may terminate the contract.</p>
9	40	Performance Security	Required: 10% of the contract price
10	18	Currency of Proposal	Local currency PHP for Local Bidder and USD for International Bidder
11	31	Deadline for submitting requests for clarifications/ questions	5 days before the submission deadline
12	31	Contact Details for submitting clarifications/questions	<p>Focal Person in UNDP: Jack Paul Agonia</p> <p>Address: North Tower 15F, Rockwell Business Center Sheridan, Mandaluyong, Metro Manila, Philippines</p> <p>E-mail address: procurement.ph@undp.org</p>
13	18, 19 and 21	Manner of Disseminating Supplemental Information to the RFP and responses/clarifications to queries	Direct communication to prospective Proposers by email and Posting on the website UNGM & UNDP.
14	23	Deadline for Submission	1400hrs on 31 May 2018; Manila Time, Philippines
14	22	Allowable Manner of Submitting Proposals	<p><input checked="" type="checkbox"/> Courier/Hand Delivery. Original bid securities MUST be submitted by courier by the deadline</p> <p><input checked="" type="checkbox"/> Submission by email</p> <p><input type="checkbox"/> e-Tendering</p>
15	22	Proposal Submission Address	<u>bids.ph@undp.org</u>
16	22	Electronic submission (email or eTendering) requirements	<ul style="list-style-type: none"> ▪ PDF files only. Zip, RAR and JPEG must not be used. ▪ File names must be maximum 60 characters long and must not contain any letter or special character other than from Latin alphabet/keyboard.

			<ul style="list-style-type: none"> ▪ Bidders are encouraged to check the attachment formats prior to submission as UNDP will not be responsible if attachments are in other formats that cannot be opened without additional software. ▪ All files must be free of viruses and not corrupted. ▪ Max. File Size per transmission: 5MB ▪ The Technical Proposal must be submitted separately from the Financial Proposal and must not contain any pricing information whatsoever on the services offered. ▪ The subject line of the e-mail(s) for the technical proposal should state "Technical proposal for PHL-RFP-2018-036: Development of Software, Supply and Delivery of Hardware for the Implementation of Philippine Renewable Energy Market Systems (PREMS) ▪ Separate email for Financial Proposal: "Financial Proposal for PHL-RFP-2018-036: Development of Software, Supply and Delivery of Hardware for the Implementation of Philippine Renewable Energy Market Systems (PREMS) ▪ The Financial proposal must be password protected. The password must not be sent to UNDP until officially requested by UNDP if the proposal is deemed technically qualified. Proposers will have 48 hours to respond to the request for password from UNDP. ▪ Bidders are advised to note their passwords in a secure place. Should UNDP be unable to open the file due to forgotten password(s), the Proposal will be rejected. ▪ Documents which are required in original (e.g. Bid Security) should be sent to the below address with a PDF copy submitted as part of the electronic submission: North Tower 15F, Rockwell Business Center Sheridan, Mandaluyong, Metro Manila, Philippines ▪ Bid securities must be submitted at the above address by closing date/time.
17	27 36	Evaluation Method for the Award of Contract	<p>Combined Scoring Method, using the 70%-30% distribution for technical and financial proposals respectively</p> <p>The minimum technical score required to pass is 70%.</p>
18		Expected date for commencement of Contract	July 20, 2018
19		Maximum expected duration of contract	6 months
20	35	UNDP will award the contract to:	One Proposer Only
21	39	Type of Contract	Purchase Order and Contract for Goods and Services for UNDP

			http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html
22	39	UNDP Contract Terms and Conditions that will apply	<p>UNDP General Terms and Conditions for Mixed Goods and Services</p> <p>http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html</p>
23		Other Information Related to the RFP	<p>The following Special Conditions of Contract shall supplement the UNDP General Conditions of Contracts under BDS No. 23.</p> <p>CERTIFICATE OF WARRANTY for HARDWARE:</p> <p>A Certificate of Warranty Security will be required. The successful Bidder must provide a Warranty Certificate in the amount commensurate to the value of the 3 years warranty and technical support services period, to be submitted after satisfactory completion and acceptance by the end user.</p> <p>The Certificate of Warranty shall be named and titled to the Department of Energy. The value of the Warranty Certificate shall be automatically decreased annually, upon satisfactory completion of the rendered warranty and technical support services, or lapse of the 12-month period.</p> <p>If the supplier fails to render the services required under the Warranty, after establishing that the defect is indeed caused by factor defect and not by mishandling or erroneous use of the equipment, Department of Energy may make claims against the Certificate of Warranty to cover the value of the repair services required. In the event that appropriate claims shall have to be made by the Department of Energy against the Certificate of Warranty, the value of the Certificate of Warranty shall also be reduced accordingly.</p> <p>Please refer to Form I of the RFP for the Certificate of Warranty template.</p> <p>WARRANTY FOR SOFTWARE COMPONENT:</p> <p>The Contractor warrants, for a period of ninety (90) calendar days from receipt of UNDP's notice of issuance of acceptance that the Product and Services will conform to specifications provided in the BRD, it being understood that ownership over the PREMS shall be turned over to UNDP upon issuance of acceptance. During the warranty period, the Contractor shall provide to UNDP, at no additional cost, services such as fixing of software defects, software use, renewal of software license/s</p>

and administration training as a result of changes to the software due to the corrections made. The warranty period for remedied defects shall be reckoned from the date of completion of remedial works. Should the Contractor fail to remedy the defect, Contractor agrees to replace, add or modify the defective equipment and/or product with the same or greater quality, without cost to UNDP.

The Contractor shall ensure that any replacement of manpower will not disrupt the project schedule and affect the software quality. The Contractor shall maintain a Service Level Agreement and shall be evaluated based on performance measures, which include but are not limited to

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- a) Not more than 10% of software defects are irreproducible
- b) Not more than 50% of software defects are reworked more than 3 times
- c) Response time to clarify or supplement a bug report is within 3 days

A period of one (1) year maintenance and support services shall be included reckoned from the expiration of the warranty period, which includes enhancements, correction of software defects, software use, software license/s and administration training, testing for error corrections or modifications, performance improvements, etc. it being understood that ownership over the PREMS shall be turned over to UNDP upon issuance of acceptance.

Database Support Services

- 24/7 Technical Support (Phone, Email and On-site)

Section 4. Evaluation Criteria

Preliminary Examination Criteria

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

- Appropriate signatures
- Power of Attorney
- Minimum documents provided
- Technical and Financial Proposals submitted separately
- Bid Validity
- Bid Security submitted as per RFP requirements with compliant validity period

Minimum Eligibility and Qualification Criteria

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

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

Subject	Criteria	Document Submission requirement
ELIGIBILITY		
Legal Status	Vendor is a legally registered entity.	Form B: Bidder Information Form
Eligibility	Vendor is not suspended, nor debarred, nor otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization in accordance with RFP clause 3.	Form A: Technical Proposal Submission Form
Conflict of Interest	No conflicts of interest in accordance with ITB clause 4.	Form A: Technical Proposal Submission Form
Bankruptcy	Not declared bankruptcy, 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: Technical Proposal Submission Form
Certificates and Licenses	<ul style="list-style-type: none"> ▪ Duly authorized to act as Agent on behalf of the Manufacturer, or Power of Attorney, if bidder is not a manufacturer ▪ Official appointment as local representative, if Bidder is submitting a Bid on behalf of an entity located outside the country ▪ Patent Registration Certificates, if any of technologies submitted in the Bid is patented by the Bidder ▪ Export/Import Licenses, if applicable 	
Others	<ul style="list-style-type: none"> ▪ A Written Proof / Statement of Satisfactory Performance issued by at least three (3) of the top clients of similar nature of supply. Contact details for references to be sought should be included ▪ Audited financial statements for the last three years (Consolidated Balance Sheet, Profit & Loss, and Cash Flow statements), proving financial capacity and financially healthy situation of the bidder, and sound financial management practices evidenced by the auditor's report and commentaries 	
QUALIFICATION		
History of Non-Performing Contracts¹	Non-performance of a contract did not occur as a result of contractor default for the last 3 years.	Form D: Qualification Form
Litigation History	No consistent history of court/arbitral award decisions against the Bidder for the last 3 years.	Form D: Qualification Form
Previous Experience	Minimum 3 years of relevant experience.	Form D: Qualification Form
	Minimum 2 contracts of similar value, nature and complexity implemented over the last 3 years.	Form D: Qualification Form

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

	<i>(For JV/Consortium/Association, all Parties cumulatively should meet requirement).</i>	
Financial Standing	Minimum average annual turnover of PhP 20,000,000 or USD 400,000 for the last 3 years. <i>(For JV/Consortium/Association, all Parties cumulatively should meet requirement).</i>	Form D: Qualification Form
	Bidder must demonstrate the current soundness of its financial standing and indicate its prospective long-term profitability. <i>(For JV/Consortium/Association, all Parties cumulatively should meet requirement).</i>	Form D: Qualification Form
	Any additional criteria if required	

Technical Evaluation Criteria

Summary of Technical Proposal Evaluation Forms		Points Obtainable
1.	Deliverables	60
2.	Expertise	25
3.	Proposed Methodology, Approach and Implementation Plan	10
4.	Management Structure and Key Personnel	5
Total		100

Section 1. Deliverables		Definitions	Points obtainable
1.1	System Administration Considerations: 1.1.A) Access Management 30% 1.1.B) Application Administration 70%		5
1.2	Registration and Contract Management (Manage Market Standing Data) Considerations: 1.2.A) Create and maintain participant 40% 1.2.B) Create and maintain facility 40% 1.2.C) View and maintain policy settings 20%	The extent to which a proposed solution will deliver on system requirements	5
1.3	Allocate RECs Considerations: 1.3.A) Import data 40% 1.3.B) Calculate entitlements 20% 1.3.C) Create RECs 20% 1.3.D) Issue allocation reports 20%		10
1.4	REC Transactions (Manage Participant Activities) Considerations: 1.4.A) Manage participant account activity 30% 1.4.B) Manage inter-participant transfers 40% 1.4.C) Manage standing orders 10% 1.4.D) Manage disputes 10% 1.4.E) Bulletin board 10%		15
1.5	Manage RPS Compliance Considerations: 1.5.A) Import data 40% 1.5.B) Calculate compliance volumes 30% 1.5.C) Issue compliance notices 15% 1.5.D) Produce compliance reports 15%		10

1.6	Data Publication and Reporting		5
	Considerations:		
	1.6.A) Participant data and reports 40%		
	1.6.B) Registrar data and reports 40%		
	1.6.C) Public data and reports 20%		
1.7	Data Interfaces and Non-Functional Requirements	The extent to	10
	Considerations:	which a	
	Data Interfaces	proposed	
	Automatic import 25%	solution will	
	Data overriding / manual import 15%	deliver on	
	Monitoring of import process 10%	system	
		requirements	
	Non-functional Requirements		
	1.7.A) Assurance and security 10%		
	1.7.B) Efficiency and performance 10%		
	1.7.C) Management 5%		
	1.7.D) Training and awareness 5%		
	1.7.E) Environments 20%		
Sub-total Score for the Deliverables			60

Section 2. Expertise of Firm and Organization	Definitions	Points obtainable
<p>2.1 Industry/Business/Technology Process expertise</p> <p>Considerations:</p> <ul style="list-style-type: none"> - At least 3 years of experience in successfully delivering ICT Projects on time, on budget and to customers' satisfaction - At least 3 years PMP or Prince 2 Certified Partner - Has 3 successful implementation of actively used e-marketplaces, government related e-tendering or procurement systems or related areas - At least 2 or more successful implementations of marketplaces or related systems 	<ul style="list-style-type: none"> • Provide information that the contractor implemented based on IT Project Management best practices with PM having proven success track record and/or certifications in PMP or Prince 2 and PM within the company for at least 3 years • Provide information that the contractor has staff to support EMDRP enhancement or experience • Provide information that the contractor has experience in business analysis related to the energy sector, in particular in relation to government policy • Provide information that the contractor has experience other technologies that can improve EMDRP architecture 	10
<p>2.2 Capability of the contractor in terms of completed project / Rate of Success with other projects (Number of projects completed with similar complexity and also the timeliness of project completion)</p>	<ul style="list-style-type: none"> • Provide the number of contracts for Development vs. the Number of successfully completed projects • Cite examples: Project Name, Description, Original Target Completion Date, Actual Completion Date 	6

Considerations:

Scoring will be identified for each member of the project team and pro-rated depending on the level of contribution to the project (as per contractor's submitted work plan / staff input)

- Number of years relevant experience (energy market or renewable certificates projects) and level of contribution to the project

4

Sub-total Score of Expertise

20

Section 3. Proposed Methodology, Appropriateness to the Condition and Timeliness of the Implementation Plan

Definitions

Points obtainable

- 3.1 Implementation and Support Plan (Development and testing schedule and strategy / approach)
- Considerations:
- a. Deliverables and timelines are based on suggested timeframe in the TOR
 - b. Shows a graphical presentation of activities (i.e. charts)
 - c. If any deviations on timeline are proposed, the proposal should still be able to accommodate required deliverables within the allotted timeframe of the project

Adherence of the proposed work program to the TOR indicating activities, periods in the field and in the home office, man-hours, logistics, and reporting

5

- 3.2 Availability of Manpower/Replacement time for manpower outage/Lead time for mobilization
- Considerations:
- Manpower Replacement within 1 week
 - At least 1 personnel for each role: Senior developer with RDMBS expertise, Architect, PM

- Describe how manpower replacement is being done in the company and identify the lead time in terms of days.
- The contractor can provide manpower complement for all roles: DBA, Developers with required types of expertise, Analyst, Architect, Tester, Project Manager, etc.
- Identify the number of manpower per assigned role

5

- 3.3 Ability to secure hardware solution proposed.
- Considerations:
- Prior experience in sourcing similar hardware and/or datacenters
 - Manufacturer statements attesting availability of proposed

- Experience with the definition of hardware solutions and knowledge of challenges in sourcing said parts

2

components for the purpose of this procurement

- Details of hardware production/sourcing plan.

Total Section 2 **12**

Section 4. Management Structure and Qualification of Key Personnel	Definitions	Points obtainable
<p>4.1 Number of years of experience of Data Base Analyst, Analysts, Programmers, Testers, Project Manager</p> <p>Considerations:</p> <ul style="list-style-type: none"> - At least 1 personnel certified in their respective field of expertise - At least 1 personnel certified as in their respective field of expertise - All personnel that were mentioned should be a regular/permanent employee for at least two years 	<ul style="list-style-type: none"> • Identify roles/names and experience in terms of years 	5
<p>4.2 Ability to train and handover the necessary user and technical staff know how</p> <p>Considerations:</p> <p>Prior experience facing customers (both technical and non-technical) and training them</p>	<ul style="list-style-type: none"> • Training activities are well defined • Assigned staff for training has prior experience in transferring knowledge to users and developers 	3
<p>Total Section 3 8</p>		

Section 5. Terms of Reference

A. Project Title

Development of the Philippine Renewable Energy Market System (PREMS)

B. Project Description

The Renewable Energy Act of 2008 or Republic Act No. 9513 (RE Act) was passed into law with the principal objective of accelerating the exploration and development of renewable energy resources,

increasing the utilization of renewable energy, encouraging sustainable development and utilization of renewable energy to effectively reduce harmful emissions, and establishing the necessary infrastructure and mechanisms to carry out the specified mandates. Consistent with the objectives of the RE Act, the Development for Renewable Energy Applications Mainstreaming and Market Sustainability (DREAMS) Project was created. The DREAMS Project is a joint effort of the United Nations Development Programme (UNDP), Department of Energy (DOE) and Global Environment Facility (GEF) aimed at promoting and facilitating the commercialization of the renewable energy (RE) markets through the removal of barriers to increase investments in RE-based power generation projects.

The DREAMS Project has four (4) components, namely: (1) RE Policy, Planning and Financing; (2) Institutional Strengthening for RE Mainstreaming; (3) 'Capitalized' RE Market Development; and (4) RE Technology Commercialization. Under Section 8 of the RE Act, the Philippine Electricity Market Corporation (PEMC) is mandated to perform the functions of the Renewable Energy Registrar (RER) and as such was identified as the Responsible Party for the third component of the DREAMS Project. Under the DREAMS Project, PEMC will lead the completion of the 'Capitalized' RE Market Development component as part of the joint effort by PEMC and DOE in the establishment of the RE Market.

The establishment of the RE Market includes the development and issuance of policy instruments that will define the protocols and procedures for the market, and the development of an enterprise-grade system, the Philippine Renewable Energy Market System ("PREMS"), that will handle registration and contract management, Renewable Energy Certificate ("REC") transactions and allocation, Renewable Portfolio Standards ("RPS") compliance and reports management.

The Contractor shall provide Products and Services and other related components to deliver a complete and quality product, the Philippine Renewable Energy Market System (PREMS). It shall develop, customize, install and test application software, hardware and equipment, as well as provide system documentation (including the source code) for any development activities for the PREMS and provide user trainings.

The RE Registrar will be the primary user of the PREMS while access will be provided to the DOE, REM Governance Committee, the PEM Board and other supervisory authorities for their conduct of monitoring and oversight functions. The REM generators and the mandated entities identified in the Renewable Portfolio Standards (RPS) will be allowed to perform transactions to facilitate compliance to the RPS. Furthermore, voluntary participants will be provided with limited access to the interfaces as part of the Green Energy Option Program.

The PREMS shall also interface seamlessly with other market systems including the Central Registration and Settlement System (CRSS) and the Electricity Market Database and Reporting Platform (EMDRP) of PEMC as the WESM Operator for the acquisition of the market's registration and settlement data and other data sources including but not limited to the system/s of the National Transmission Corporation (TransCo) for the implementation of the Feed-in-Tariff mechanism, the National Grid Corporation of the Philippines (NGCP), On-grid, and Off-grid and Mindanao Metering Providers (MSPs). **ANNEX C** provides the interfaces of PREMS with other systems.

The Contractor and the UNDP shall execute an Agreement for the Supply of Products and Services for the PREMS. The UNDP shall regularly coordinate with the DOE and the PEMC throughout the implementation of the Agreement. The Contractor will be regularly reporting to PEMC for the technical aspects of the project including, but not limited to, project management, requirements analysis and finalization and approval of the deliverables. Upon its completion, all rights, title, authorities and privileges, including all hardware, software, warranties, license and maintenance agreements secured for such system ownership over the PREMS shall be turned over by UNDP to DOE and eventually to PEMC, subject to the provisions of the Memorandum of Agreement (MOA) to be entered into by PEMC and the DOE.

C. Scope of Work

1. Major Project Tasks

The Contractor's tasks shall cover, but not be limited to, the following:

- a) Conduct business process analysis and design enhancement of the PREMS through elicitation and elaboration with the PEMC project team, process owners and DREAMS project support group, if necessary;
- b) Strategize and formulate implementation plans for the efficient and timely accomplishment of all the PREMS features and project milestones;
- c) Supply Products and perform of Services as defined in **Section J** of the Terms of Reference;
- d) Integrate a module with another module, other software application and third party software;
- e) Conduct software planning, design and testing;
- f) Implement the development and customization of the system including software coding and defect-fixing;
- g) Provide Project Management Plan (PMP), Quality Management Plan (QMP), Deployment Plan (DP) and all the required software product documentation (including the source code, detailed business requirements, detailed software design specifications, test documents, training manuals, user/admin. guides, and other documents that may be deemed necessary to efficiently test, operate and maintain the PREMS);
- h) Deliver software products and configured hardware equipment, including other necessary incidental or third party software and hardware, based on the requirements provided by PEMC;
- i) Supply, install, configure and integrate commercial off-the-shelf software products or customized solution and hardware equipment delivered by the Contractor and third party software;
- j) Test and correct reported defects and issues;
- k) Install and configure the solution in the production environment and test hardware equipment;
- l) Provide product and project documentation;
- m) Provide consultancy and advisory services on system performance tuning;
- n) Provide advisory services and assistance during system trial;
- o) Execute test cases for unit and system integration testing;
- p) Perform security and performance testing;
- q) Conduct User Acceptance Testing (UAT) together with PEMC as Observer;
- r) Provide assistance in the conduct of preliminary testing with the Data Providers and external users;
- s) Provide Trainings/Workshops to PEMC personnel;
- t) Coordinate regularly with PEMC project management team, users, process owners and DREAMS project support group regarding the project progress and issues/concerns through meetings, teleconference, issue logs and emails.

2. Nature of Work

The PREMS shall consist of a fully integrated set of computer software programs which shall operate on the Designated CPUs at the Sites set forth in **Section C** of this Terms of Reference and which shall be the latest version of the Software that the Contractor as of the time of installation.

Any Material prepared and delivered by the Contractor in the course of providing Services shall be considered works made for hire. All rights, title, and interests of such materials shall be and are assigned to UNDP as its sole and exclusive property.

The "Materials" are defined as the software, documentation, the software product (source code) and other materials, including any updates and upgrades that are provided by the Contractor.

The PREMS shall interface with systems of the WESM Operator including the Central Registration and Settlement System (CRSS) and the Electricity Market Database and Reporting Platform (EMDRP) and

other systems of the WESM Operator, TransCO as the FiT All Administrator and MSPs, hence, the PREMS shall be compatible with such systems.

The Contractor shall have the capacity to provide services and other related components covering all the modules. Detailed scope will be identified, enumerated and described in the Business Requirements Document (BRD) for each module of the PREMS. Each BRD shall be agreed upon and signed by both parties and shall indicate the manpower required to accomplish the work, the number of man-days or man-months. While each module is expected to be accomplished independently, it should be noted that inputs or outputs of each module may be interrelated with another module.

3. Functional Hierarchy

The diagram in **Figure 1** shows the top level hierarchy on how the business requirements are organized into functional areas. This hierarchy provides a structure for the collection of requirements.

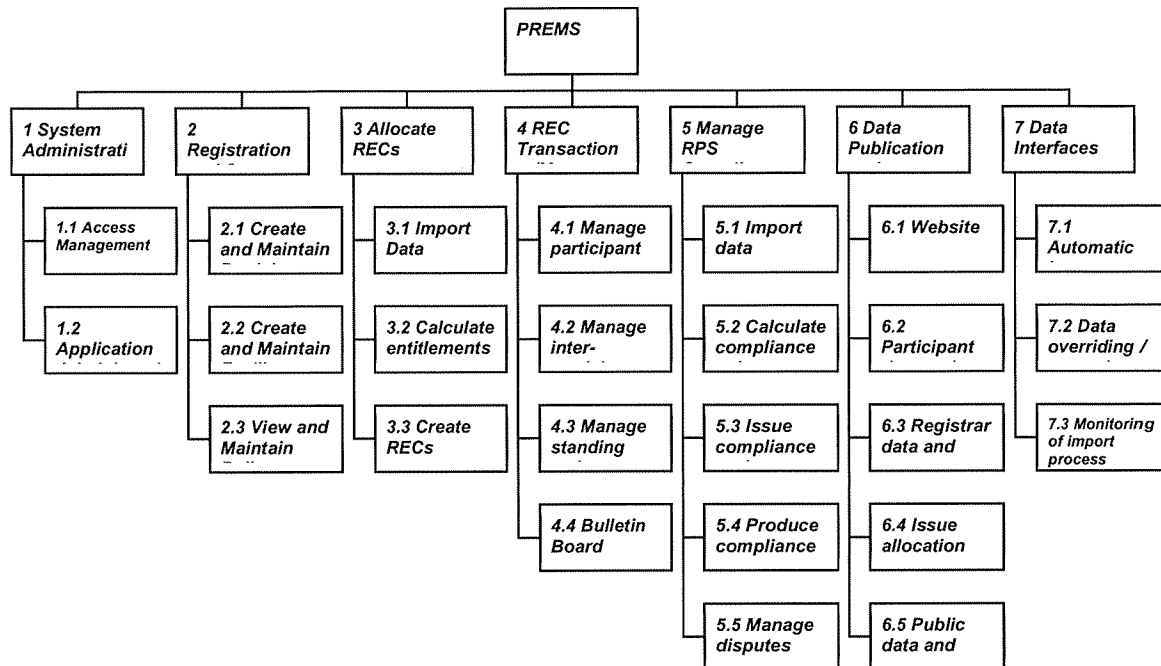


Figure 1. Top level functional hierarchy

Provided in **Section D item 6** are the descriptions and the functional breakdown of the modules. Annex D provides the description of the modules' components including the reference requirements. The details will be stated in the Business Requirement Documents (BRD) to be developed during Requirements Analysis.

4. Non-functional Requirements

The Non-functional Requirements cover the aspects of the system which do not relate to the supported business processes and will be detailed in the Business Requirements Document/s (BRD). The diagram in **Figure 2** shows the non-functional features that the system should possess.

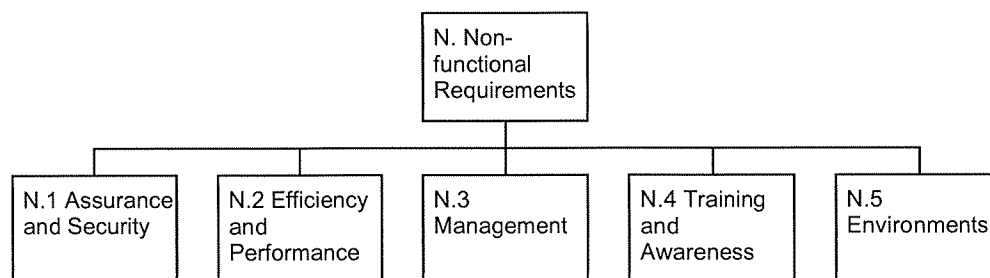


Figure 2. Non-functional requirements

Provided below are the high-level description of the non-functional features. More details will be provided during the Requirements Analysis and will be contained in the BRD.

a) Assurance and Security

The system shall comply with the REM Rules. The system shall control, monitor and record access to it. The system shall maintain referential integrity when the access of the linked entities are changed.

b) Efficiency and Performance

The system shall be provided with a ninety-day warranty period for custom or modified software components and one-year maintenance support. The system shall allow monitoring of progress of processing tasks and shall alert users on the completion of processing tasks. All graphical user interfaces must be accessible via the internet, in order of priority, using the latest versions of Google Chrome, Mozilla Firefox, Microsoft Edge and Apple Safari. Uploading or downloading of data or graphical user interface web pages containing less than 1MB of data shall load within three (3) seconds.

The system shall be able to generate performance reports including but not limited to the following:

- A. Availability;
- B. Mean time between failures;
- C. Recovery point objective;
- D. Recovery time objective;
- E. Data retention;
- F. Response time;
- G. Expected user, data and transaction volumes; and
- H. Scalability.

c) Management

The system shall provide context sensitive online help to users. The system shall be supplied with a solution specification description document containing Functional Specifications, Design Specifications, Proposed Configuration Settings, Requirements vs. design features matrix and Requirements vs. test scripts matrix. The Contractor shall supply the necessary manuals and as-built documents including actual configuration settings and known issues.

The Contractor shall supply test cases, test scripts and test result reports for unit, integration and system testing, to be carried out by the Contractor.

The Contractor shall supply test cases and test scripts for User Acceptance Testing to be carried out by PEMC.

d) Training and Awareness

The Contractor shall provide training and training materials for PREMS operators, system administrators, users for market governance and supervisory authorities and the REM Training Team, who will train the market participants.

The contractor shall provide training for 15 users composed of operators, application administrators and governance bodies. The vendor shall conduct two (2) days of training for Business Process Owners (User) and two (2) days of training for Administrators (System and Database). The venue shall be at PEMC's Office.

The vendor shall provide training for PEMC trainers who will then provide training to market participants and shall provide electronic copies of training materials for all trainings. PEMC shall reproduce these materials.

e) *Environments*

The system shall be developed on the Contractor site, in contractor supplied development environments. The system shall be deployed in a production system with site-to-site active configuration and in a test environment on PEMC premises (Main and Back-up Site). The system shall be able to perform site-to-site replication (Main and Back-up Site). The Contractor shall perform database cleanup of data used in testing prior to start of production use and commercial operations.

5. Requirements Analysis

The functional and non-functional requirements are specified in a high-level manner. The Contractor shall allocate a project activity or activities to elaborate or breakdown the requirements to be stated in the BRD. The Contractor should be able to provide adequate man-hours dedicated to elicit detailed requirements. The Contractor shall accept the risk of approximating enough resources to be able to arrive at the definite requirement specifications as communicated by PEMC.

Reference requirements are provided on Annex D for reference. Some of the values and configurable features may change, subject to the process to be defined in the Change Management Plan under the Project Management Plan under the Major Project Tasks or a change process to be defined by the contractor at bidding time to provision for cases where requirements analyses lead to substantial deviations from the reference specifications.

The Contractor shall include all associated cost in terms of time, resource and monetary considerations in its offer.

The output of requirement analysis activities must meet the performance standards of the Quality Management Plan on aspects including but not limited to the following: response time and growth of data to be processed by the system.

6. Quality Control

The Contractor shall conduct the following test and defect correction stages:

- a) *Unit testing – white box tests of individual components such as methods, objects, classes, software functions, and procedures;*
- b) *Functionality testing – tests on the storage and access capabilities of the system when interfaced by the NMMS and PEMC's various market systems as well as reports generation using Business Intelligence Tools (Tableau);*
- c) *Component integration testing – test of integration between components;*
- d) *System testing – end-to-end test of all software functionalities, business cycle and business logic;*
- e) *Others – all non-functional tests such as security, volume, load, stress, compatibility, usability including document test.*

User or Acceptance Tests will be conducted by CONTRACTOR and will be observed by PEMC. PEMC may conduct additional exploratory tests as an option, subject to the conformity by CONTRACTOR with the test plan.

D. Expected Outputs and Deliverables

Deliverables/ Outputs	Estimated Duration to Complete (Months)	Target Due Dates	Review and Approvals Required
Delivered	1	August 2018	PREMS Evaluation Team / Panel
Configured and Tested	2	W4 August 2018	PREMS Evaluation Team / Panel
Completed / Developed Modules	5	September 2018	PREMS Evaluation Team / Panel
Compliant to Final User Acceptance Tests and Defects are Fixed	2	November 2018	PREMS Evaluation Team / Panel
Documentation (including Source Code)		November 2018	PREMS Evaluation Team / Panel
System Integration		November 2018	PREMS Evaluation Team / Panel
Software Certification*	4	November 2018	PREMS Evaluation Team / Panel
Trial Operations Assistance	2	25 December 2018	PREMS Evaluation Team / Panel
Commercial Operations		26 December 2018	PREMS Evaluation Team / Panel

**Conduct of Software Certification is not included in the scope of this Terms of Reference*

Software Certification and Vulnerability Assessment & Penetration Testing (VAPT) will be conducted by independent third parties to ensure that the system is compliant to the REM Rules and Manuals and is also compliant to security testing to avoid accidental and unlawful data loss, alteration of data and intentional/unintentional disclosure of confidential information. It is part of the Contractor's deliverables to ensure compliance to the Software Certification Audit to be conducted by the independent third party.

The project deliverables shall be reviewed by an evaluation team / panel composed by a technical expert (consultant) and representatives from UNDP, DOE, and PEMC.

1. Hardware

The Contractor shall provide, supply and deliver the required quality Products and render manpower Services needed to operate the PREMS, specifically the Hardware and related components compatible with the WESM Operator's Market Systems. The Hardware servers, equipment or database shall be in accordance with the System Architecture to be prepared for the PREMS, consistent with the System Infrastructure Design provided in ANNEX B – System Infrastructure Design.

The System Architecture for the infrastructure required to run the proposed solution in accordance with the performance standards set within this document should be described in detail in the submitted bid or proposal, together with corresponding detailed technical specifications of the servers, equipment or database wherein the PREMS will be installed or deployed and tested.

The servers shall include a Production Environment (Main Site), a Back-up (Disaster Recovery) Environment and a Test/Development Environment. The Main Site will be at PEMC premises while the Back-up Site will be situated in Visayas region, however the specific address shall remain confidential and will be disclosed to the successful bidder only upon signing of the contract. The Back-up Environment shall have exactly the same specifications with the Production Environment. The Test/Development Environment shall be a scaled down version of the Production Environment. The Production and Back-up Environments shall be complemented with an Uninterruptible Power Supply (UPS) for the servers, storage and network equipments and three (3) terminals or workstations for the users and system administrators to access or operate the system.

2. Licenses

- i) The Contractor shall acquire and maintain at their own cost software products and licenses for the test and development environments necessary to develop, release and maintain The Software in development and/or in maintenance.

ii) Licenses and Intellectual Property:

For avoidance of doubt, ownership and/or assignment of licenses and intellectual property shall be subject to the agreement to be entered into by DOE and PEMC (as end-user) relating to the PREMS.

- a) The Contractor warrants and represents that the Government of the Philippines and any of its ministries, departments, agencies or state owned enterprises (henceforth MDAE), as the Administrator (Registrar) and End user of the PREMS, will be granted the same rights granted to UNDP under the resulting contract in accordance with Article 11 of UNDP General Conditions of Contract attached hereto.
- b) Ownership of The Software in production, and The Software SDK, all rights, titles and interest shall be fully vested in the MDAE without further compensation.
- c) For the Software developed for this project, the Contractor shall assign property of all Source Code, SDKs and licenses (free, perpetual and unrestricted licenses) and all intellectual rights to the UNDP and MDAE.
- d) For the Software parts that are not developed specifically under this project, such as off the shelf solutions, the MDAE must be granted perpetual license for use without further compensation and the source code must be placed under escrow to protect the MDAE against a collapse of the contractor.
- e) There shall be no time or usage limitation on third party products or libraries the Contractor chooses to employ.
- f) Provision of licenses, SDKs and sources codes must guarantee the End User to be able to ensure independent maintenance and updating/modification of the Software in the future. This includes the right of the End User to have a commercial third party modify the software free from license

or usage constraints from the Contractor or any product or library the Contractor has chosen to employ.

- iii) Any system, hardware or software development needed to guarantee the full operation of the solution requested must be included in the offer, and no extra costs can be accepted thereafter in order to comply with the requirements.
- iv) Inclusion and provision of source codes or binaries and SDKs to the UNDP and MDAE for the solution developed for this project must be full and ensure future use and sustainability, in order to avoid contractor lockdown.
- v) Source code or binaries, database schema and definitions, configuration files and build artifacts, documentation and any other custom developed artifact of the Software specifically developed for this project must be made available in order for the End User to be able to ensure independent maintenance and updating/modification of the software in the future.

Specifically, all source code related to software packaging and integration, business logic, user interfaces and all other components not explicitly listed here as commodity components must be provided unless otherwise agreed with UNDP and MDAE. Components considered to be commodity are operating systems and device drivers, relational database management systems, biometric extraction and matching libraries, and .Net or Java toolkits which are part of standard Java or Microsoft SDKs. Source code of COTS solutions accepted by UNDP and the MDAE must be placed under escrow to protect the MDAE against contractor collapse.

3. Methodological Requirements

Software Project Management Approach

- i) The project will be managed according to an Agile approach, with iterations conducted on approved specifications and duration for each sprint.
- ii) The reference specifications are those contained within this document. A change process should be defined by the contractor at bidding time to provision for cases where requirements analyses lead to substantial deviations from the reference specifications.

Release Management

- a) Continuous Integration and Version Control: The building of the software or its custom components from source code and other artefacts shall be fully automated, and user friendly. The source code will be made available throughout the project using a code repository based on open standards (e.g. CVS, SVN or Git).
- b) A build shall be performed every night, making the new build available to UNDP and PEMC for testing.
- c) The continuous integration and version control platform, including all scripts and configurations, must be transferred to a PEMC server before the end of the warranty period.
- d) The Contractor shall provide documentation in a collaborative platform on how to install the Software on all relevant hosts and environments. Before the final release, relevant parts of this documentation must also be included in the user manual.
- e) Contractor must provide automated installation packages for all modules of the Software as part of the nightly build. All steps of the installation process must be automated to the extent technically possible.
- f) Where the software is already installed, the option and means to replace it must be provided.
- g) If the installed version has data, the option to wipe it or to keep or migrate it must be given. Where the choice is to wipe existing data, a backup must be made so that it could be imported later.
- h) Software build mechanisms should include bundling relevant metadata and configuration where available.

- i) If there are problems with the deployment of a release and the End User/UNDP are not able to get a release deployed, either in QA or in production, the Contractor shall assist in getting the release deployed to the satisfaction of End User/UNDP.
- j) Unit tests must be provided with all use cases. Unit tests should cover backend functions as well as the GUI for each use case.

Issue Tracking

- a) The Contractor must maintain an issue tracking system where the Contractor and UNDP along with the PEMC together can follow up on issues related to this project.
- b) All tickets, regardless of their status, must be accessible by UNDP and PEMC.
- c) The issue tracking system and its content should be transferred to a PEMC server before the end of the warranty period.

Architectural Requirements

- i. All development, platforms, persistence, web services, data exchange formats shall be based on open, non-proprietary, widely adopted standards supported by several major, independent companies. However, OS, device drivers, and if otherwise specified in this document may be proprietary off-the-shelf software.
- ii. Open solutions are defined through two criteria:
 - a. The End User has access to the source code and/or contractor independent standards for their maintenance needs,
 - b. Absence of licensing financial constraints.
- iii. Technical solutions shall not be based on proprietary fixes, solutions or optimizations which lock the End User into a specific contractor.
- iv. Methodological aspects and tools underpinning the methods, shall be based on open, non-proprietary, widely adopted standards and procedures so that the End User isn't methodologically locked in.
- v. Acceptable RDBMS are:
 - a) Microsoft SQL Server
 - b) Oracle
 - c) PostgreSQL

If other RDBMS are proposed, they should be pre-approved by UNDP and PEMC.

4. Hardware Services

- i. Hardware and OS installation/configuration of all nodes
 - ☐ Material Delivery (Servers)
 - ☐ Hardware Delivery/ rack mounting
 - ☐ Asset checklist
 - ☐ Hardware Acclimitization
 - ☐ Hardware Power attachment
 - ☐ Hardware Burn-in and diagnostic Test
 - ☐ Cabling
 - ☐ Project Plan
 - ☐ Secure Contractor Access (PEMC Datacenter)
 - ☐ Coordinate Work Plan with PEMC
 - ☐ Materials Delivery (Cable, Cable manager, and termination RJ45)
 - ☐ UTP/Fiber Layout

- ☐ Cable Crimping
 - ☐ Fluke Testing/Fiber testing
 - ☐ Cable Harnessing
 - ☐ Cable Manager Installation
 - ☐ Uplink termination testing
 - ☐ Uplink connection, configuration and Testing
 - ☐ Switch configuration
 - ☐ Coordinate VLAN designation
- ii. Installation and configuration of necessary software and PREMS for all servers (Main, Back-up and Test/Development Sites). All Installation activities must include the following sub-activities:
- ☐ Kick off and planning
 - ☐ Site survey
 - ☐ Submission of initial plan
 - ☐ Acceptance criteria setting
 - ☐ System Testing (including database replication, database and application failover, high availability)
 - ☐ Submission of test reports
 - ☐ Submission of as-built documents

5. General Software Requirements

Graphical User Interface (GUI)

- ☐ The software build version must be displayed at all times in a non-intrusive manner on GUIs. In modules without a GUI, a command line interface (CLI) must provide the ability to obtain version information.
- ☐ All user interfaces must be in English by default.
- ☐ All dates should be displayed in the format 'YYYY-MMM-DD (e.g. 2018-APR-11)'.
- ☐ All GUI forms shall allow the user to move from one option, button or field to the next by use of the 'tab' key or through mouse interactions.
- ☐ Fields subject to validation and containing an error will be highlighted appropriated by a visible red marker.
- ☐ Fields subject to validation and containing a warning will be highlighted appropriated by a visible yellow marker.
- ☐ Each warning or error marker should have a matching tooltip with an explanatory message understandable by non-technical users.
- ☐ Proper error handling must be provided throughout. That includes messages destined to non-technical users for all cases of errors, with the option to display technical details to support troubleshooting by helpdesk staff.
- ☐ Error workflows should always return the software to a deterministic stable state where users can continue normal operations. If that is not technically possible, the application must shutdown with appropriate error messages and logs.
- ☐ GUI fields which are made of lists or validated against lists should store the validation values as part of the metadata in an editable way by authorized persons.
- ☐ All GUI screens must be submitted to UNDP and PEMC for approval as wireframes or prototype screenshots before being implemented. Timelines for approvals of GUIs must include a lead time to be agreed upon both parties.

- The software must run with fluid user interactions on the hardware procured as part of this contract. Fluid means that on average, the UI response is less than 0.1 second.
- Long running actions must thus provide progress indicators, information updates on actions being executed and/or an estimated time to completion at a frequency of at least once a second.

Data Integrity

1. Data integrity must be maintained at all times by saving all data in a relation database.
2. All actions in this software generating production data in the database should result in a corresponding backup write in a predetermined backup location, using a format importable by this same software.

6. Modules

The Contractor shall provide products, services and other related components covering ALL the modules. Below is a brief description of each of the modules.

Module 1: System Administration

This module will facilitate user login, creation and maintenance, password management, password retrieval, privileges and role management and system monitoring and logging.

This module will also facilitate management of system configuration considering possible changes on parameter values based on policy or regulatory issuances.

Module 2: Registration and Contract Management (Manage Market Standing Data)

This module will facilitate the creation and build-up of all market participant registration information, classification of membership, company information, market participant information, and all other requirements in the REM. This module will also include assessment of application that involves evaluation of the RE Registrar, monitoring of applications and existing participants, uploading of application documents and generation of registration reports.

This module will also facilitate enrollment of contracts from participants and the monitoring, updating and approval of the contract will be part of the functions of this module.

Module 3: Allocate RECs

This module covers the import of various input data for calculation of REC entitlement, creation of RECs, calculation of REC entitlement of participants in the REM and issuance of allocation reports.

Module 4: REC Transactions (Manage Participant Activities)

This module will facilitate management of REM participant activities including banking, transfer and retirement of RECs, creation, acceptance and cancellation of REC orders, dispute management and bulletin board management.

Module 5: Manage RPS Compliance

This module will facilitate import of various input data for calculation of compliance volumes, issuance of notices (via dashboard notifications, e-mail and generation of letters), calculation of REM participants' compliance volumes and generation of compliance reports.

Module 6: Data Publication and Reporting

This module will facilitate management and generation of various reports including participant account balances, transactions, compliance forecast, REC expiration, registry summary and public data and reports.

Module 7: Data Interfaces

This module will enable the PREMS automatic or manual import of data from related Market Systems including the CRSS and the EMDRP and other data sources including but not limited to the system/s of the National Transmission Corporation (TransCo), the National Grid Corporation of the Philippines (NGCP), On-grid, Off-grid and Mindanao Metering Contractors (MSPs) including the National Power Corporation (NPC) and the WESM Operator (MO).

This module will also enable the PREMS to automatically or manually export of data to the REM website.

Note: The list of modules above shows the initial breakdown of outputs that will be awarded to the Contractor. The modules shall be scalable, configurable, or can be combined, deleted or deferred depending on events that may transpire during the development of the PREMS. For more clarity, detailed descriptions of each module's components are provided in **ANNEX D – Detailed Description of the Modules' Components**.

7. Documentation Requirements

PEMC, in coordination with the UNDP, shall review and approve all documentation required to be submitted by the Contractor. The Contractor shall submit complete documents on the following:

- a. Source Code;
- b. Project Management Plan;
- c. Quality Management Plan;
- d. System Architecture / Data Interface Document;
- e. Deployment Plan;
- f. Detailed Design or Solution Specification Document;
- g. Requirements vs. Design Features Matrix
- h. Test Design and Test Case Specifications
- i. Test Results, Test Logs, Requirements vs. Test Case Matrix, Test Analysis and Summary
- j. Administrator and User Manuals;
- k. Training Plan and Manual;
- l. Project and Product review, meeting minutes and reports;
- m. Network and System integration layout;
- n. Installation/Deployment Plan and Software Releases
- o. Project Completion Report
- p. As-built documents (Final Design Specifications, Actual Configuration Settings and Know Issues); and
- q. Other documents that may be deemed necessary to efficiently test, operate and maintain the PREMS.
- r. Any skills requirements for the maintenance and further customization of the system.
Particularly:
 - a. Editable user manuals for the software must be provided in electronic (MS Word) format. The manuals should cover all use cases, step by step, with screenshots of every screen or dialog included in the process. The user manuals must be organized by section, with each section targeting a specific role.
 - b. Developer manuals should:
 - i. List all technologies, toolkits and libraries used in the software;
 - ii. Give a complete list of storage data schemas, data formats and a detailed explanation of the meaning and use of each field;
 - iii. Give a complete list of all services, associated protocols and definitions;

- iv. Describe the architecture of the system in details;
- v. Include “hello world” type tutorials or equivalent for each of the technologies, toolkits and libraries.
- c. Developer manual must be provided in the form of a collaborative platform. It is setup at the beginning of the project and its content must reflect the delivery progress of the software.
- d. The collaborative platform and its content should be transferred to a PEMC server before the end of the warranty period.

8. Training

Training or workshops on the following topics shall be provided by the Contractor:

1. *Business Process Owners (User) Training;*
2. *Administrators (System and Database) Training;*

E. Service Level Agreement

The Contractor shall provide the UNDP and PEMC, subject to the terms of the Memorandum of Agreement (MOA) to be entered by the DOE and PEMC for the PREMS, technical support via email, web services, and/or phone within four (4) hours after a problem is reported. If a problem cannot be addressed through email, web or phone support, the Contractor shall provide on-site technical support to PEMC as soon as possible after the problem is reported. In case of disagreement, PEMC's determination that a problem can no longer be addressed through email or phone support is binding upon the Contractor.

Hardware: 4 hours SLA for replacement of parts 24/7 support.

F. Warranty and After-sales Support

Software

The Contractor warrants, for a period of ninety (90) calendar days from receipt of UNDP's notice of issuance of acceptance that the Product and Services will conform to specifications provided in the BRD, it being understood that ownership over the PREMS shall be turned over to UNDP upon issuance of acceptance. During the warranty period, the Contractor shall provide to UNDP, at no additional cost, services such as fixing of software defects, software use, renewal of software license/s and administration training as a result of changes to the software due to the corrections made. The warranty period for remedied defects shall be reckoned from the date of completion of remedial works. Should the Contractor fail to remedy the defect, Contractor agrees to replace, add or modify the defective equipment and/or product with the same or greater quality, without cost to UNDP.

The Contractor shall ensure that any replacement of manpower will not disrupt the project schedule and affect the software quality. The Contractor shall maintain a Service Level Agreement and shall be evaluated based on performance measures, which include but are not limited to -

- d) Not more than 10% of software defects are irreproducible
- e) Not more than 50% of software defects are reworked more than 3 times
- f) Response time to clarify or supplement a bug report is within 3 days

A period of one (1) year maintenance and support services shall be included reckoned from the expiration of the warranty period, which includes enhancements, correction of software defects, software use, software license/s and administration training, testing for error corrections or modifications, performance improvements, etc. it being understood that ownership over the PREMS shall be turned over to UNDP upon issuance of acceptance.

Database Support Services

- 24/7 Technical Support (Phone, Email and On-site)

Hardware

Maintenance Support (Hardware)

- 3-year maintenance support on all hardware

Warranty (Hardware)

- 3-year warranty on parts, 3-years support and on-site services

G. Institutional Arrangement

The Contractor shall assign a Project Manager who shall report weekly, or more frequently if requested by UNDP or the PEMC, to the PEMC Project Team and the DREAMS Project Manager on the progress of the project deliverables, which will be approved by the DREAMS National Project Director.

The Contractor's Project Manager will serve as both liaison and coordinator of this project. The Contractor Project Manager shall liaise and coordinate with PEMC Project Team, UNDP Project Management Unit and the DOE Renewable Energy Management Bureau.

The Contractor's Project Manager shall ensure that all project deliverables and milestones are met based on target and accomplished in a timely manner.

Particularly:

- a) Communication should always include relevant and updated excerpts from the project's Risk Management Plan which will be part of the Project Management Plan. The Risk Management Plan shall be updated during Project implementation and shall provide the appropriate measures to any risk that will materialize or is expected to materialize during the duration of the Project.
- b) The Contractor must provide a realistic work breakdown structure and GANTT chart proving to meet the agreed timelines. Resources associated with each task must be indicated, with technologies/methodologies to be used and CVs provided. Updates of this schedule must be provided with the weekly status.
- c) An initial activity breakdown must be provided at bidding time. The bidder should add as many details as necessary to demonstrate solid planning and capacity for the delivery. It is understood that this breakdown may change at project initiation after further requirements analysis is conducted.
- d) The system will be subject to acceptance testing. The tests are made jointly by UNDP, PEMC and the Contractor, where UNDP and PEMC make the general test case and acceptance criteria, and the Contractor details the case with test data and detailed steps. UNDP and the End User are free to test with other data and in other ways than planned.
- e) There are three acceptance test outcomes:
 - i) *Accepted*. The content is accepted according to the test plan. The project's phase starts transitioning to the post-implementation support phase without reservation. The Contractor will fix any defect discovered during the support period in accordance with the SLA.
 - ii) *Tentatively accepted*. The content is not accepted according to the test plan, but the shortcomings are not so severe and a list of issues is produced. Transition to the support phase could start and the SLA applies. The Contractor is still liable to address defects raised by UNDP and PEMC.
 - iii) *Rejected*. The content is not accepted according to the test plan and the shortcomings are so severe that an additional iteration has to be put in place to fix the outstanding issues.

If any requirement is deemed non-compliant (rejected), the whole system is deemed non-compliant.

In other words, for the system to be accepted, all requirements in this document must be at least tentatively accepted.

- f) A bug fix is defined as a patch addressing a quality issue in the software. A change request is defined as a change in the features/functionalities, which has not been initially included in the scope of the Software. In case of disagreement over the nature of a request, as being either a bug fix or a change request, UNDP is the ultimate decision maker on whether it is a change request or a bug fix.
- g) The Contractor shall fix any bug without any cost to UNDP or to the PEMC, impediments to the rest of the project or any pre-conditions.

Project Resources

The Contractor shall ensure the availability of an adequate number of qualified and properly trained manpower/personnel assigned exclusively throughout the project and shall maintain an effective manpower/personnel replacement to address manpower changes. Contractor manpower resources shall include the following IT experts and specialists but not limited to the following: Project Manager, Business Analyst, Systems Architect, Database Administrator, Software Engineer, Programmer, Quality Assurance/Tester. The Contractor shall include in its submitted proposal the number of personnel per position/type each position that it shall be allocating for the project.

The Contractor shall assign project manager, project coordinator or team leader whose task shall include but will not be limited to:

- i) Managing the Contractor's allocated manpower, hardware, software and other resources

Serve as a single point of contact for any and all concerns to be communicated to and from PEMC

The Contractor shall provide development and test facilities offsite that are assigned to the Project, including, but not limited to: servers, workstations, printers, network, backup equipment, third party software, reporting tools, test and development software, software defect tracking system, and office spaces needed to deliver the required product and services. Contractor test facilities can also be used as an alternative UAT system if required whenever PEMC systems are not available to avoid delays. Cost of these facilities shall be for the account of Contractor. On the other hand, internet connection, office space, and staging area during meetings, on-site installation and testing shall be accounted for by PEMC.

The Contractor shall ensure that it has the capacity to mobilize its project resources such as, but not limited to, development environment consisting of hardware and equipment (servers: application/file/database, PC workstations, network, printers, etc.), licensed software and tools, database including IDE (e.g. Eclipse), source code versioning tool (e.g. SVN), issue tracking tool (e.g. Redmine), Project management tool, SQL RDBMS, MS Office, etc. within sixty (60) days from execution of the Agreement.

The Contractor shall maintain standby equipment resources in case the equipment used in the project becomes unavailable for some reason. These measures aim to ensure no project schedule disruptions are attributed to project resources. It shall have plans for backup and disaster recovery, and shall keep at off-site facilities up-to-date backup copies of software versions and patches currently being developed.

Contractor shall take necessary steps consistent with accepted business practices to safeguard programs, files and data from loss or damage.

The Contractor shall be provided by PEMC/UNDP with the following PREMS project documents to assess their capability:

- i) Initial Business Requirement Document
- ii) Detailed Design Specification
- iii) Market Rules and Manuals

PEMC shall conduct WESM and RE Market briefings to the Contractor's staff to support the development of the PREMS.

The Contractor must have project and technology competent staff available to meet on demand at UNDP's or the PEMC's premises as necessary such that communication, planning and deployment are adequate. The designated staff must have authority to make decisions on the Contractor's behalf.

Where a change of staffing, specifically for the Business Analyst, Project Manager and System / Database Administrator / Architect positions, is initiated by the Contractor, UNDP will reserve the right to request that:

- i. UNDP and PEMC be informed of such change, including the reason for the change, at least fifteen (15) calendar days prior to the scheduled transition; and
- ii. The incoming person(s) work with the outgoing person for at least two (2) weeks at the provider's expense prior to the replacement taking place.

The Contractor, together with declared Partner/s are expected to be self-sufficient throughout the duration of the contract in order to carry out the Terms of Reference.

Facilities

The Contractor shall use its own resource facility to implement the development activities. The Contractor shall provide, at its own expense, adequate materials, equipment, and other items necessary to carry out the terms of the project.

UNDP, in consultation with the PEMC, may at any point in time send a representative to be embedded in the development team at the Contractor's premises for the duration of the project.

Alternatively, UNDP may at any point in time request that part or all of the development team works from UNDP and/or the PEMC's offices.

Appointment of a Local Representative

In the case of foreign or international firms, the Contractor shall be required to appoint a local representative who shall be accountable for its remedial obligations. The competency of the local representative shall be subject to concurrence or approval of the evaluation team / panel.

H. Duration of the Work

The estimated duration of work is provided on **Section D** of this document. The project is expected to comply with the DOE Department Circular (DC) No. 2017-12-0015², setting the target commencement of the RE Market not later than one year from the issuance of the said DC. In line with this, the PREMS should be delivered before the target commercial operations of the REM targeted on 26 December 2018.

² Department Circular No. 2017-12-0015, entitled "Promulgating the Rules and Guidelines Governing the Establishment of the Renewable Portfolio Standards for On-Grid Areas" or the "RPS On-Grid Rules."

The project deliverables shall be reviewed by an evaluation team / panel composed by a technical expert (consultant) and representatives from UNDP, DOE, and PEMC and shall be approved by the DREAMS National Project Director. The Contractor shall be notified of the acceptance or non-acceptance of project deliverables or milestones within fifteen (15) business days from the Contractor's notice of completion of such deliverable or milestone. If any deliverable is deemed unacceptable, such notice shall specify the reason/s for said unacceptability.

I. Duty Station

The Contractor shall be based on its own facility in accordance with the Facilities component of **Section G**.

Site inspection, as may be required, for the delivery of Hardware will be performed at PEMC's Main and Back-up Sites defined in **Section J**.

Weekly progress reporting may be held at PEMC office or at the premise to be determined by the DREAMS Project Team depending on the availability of meeting rooms or at the Contractor's designated office for face-to-face meetings. Progress reporting, as may be required, with the DREAMS project management unit may be held at UNDP's office depending on the availability of meeting rooms.

J. Definition of Terms

Product refers to commercially available computer software, hardware and equipment in the market. **Software** refers to application software, system software, programs, source codes, scripts, databases, software tool, software utility, drivers, operating system, embedded software, plugins and software extensions, that are normally stored on a digital media with software licenses, maintenance support and warranty for at least one (1) year from the developer, dealer, reseller or supplier, reckoned from the date of acceptance thereof. Software also includes any updates, modifications and enhancements to, or derivative works of the foregoing. **Hardware** refers to physical machines, devices, parts or components such as computer servers, desktops, laptops, network equipment, computer peripherals, data storage with maintenance support and warranty for at least three (3) years from the manufacturer, dealer, reseller or supplier, reckoned from the date of acceptance thereof.

Services refer to the application of business and technical expertise of the Contractor to perform the systems development (such as requirement elicitation and analysis, systems design, systems coding/scripting and systems testing), systems enhancement and modification, software customization, installation, configuration and integration of a software product and hardware equipment including consultancy, technical support and trainings.

Documentation means all technical publications relating to the Software, such as reference, user, installation, systems administrator and technical guides, all training materials, and all information delivered by the Contractor.

Site shall mean a computer system or systems comprised of one or more CPUs that are located at the same physical address.

Updates shall mean those subsequent releases and upgrades of current releases of the Software and Documentation which are generally made available to licensors of the Software which are similarly situated to UNDP, as part of Support Services at no additional charge, other than the fees for Support Services, media and handling charges. Updates are delivered only if and when available.

PREMS: Philippine Renewable Energy Market System is an enterprise-grade system that will operationalize the functions of the RE Registrar.

RE Act: Refers to Republic Act No. 9513 also known as the "Renewable Energy Act of 2008".

GEOP: Green-Energy Option is the mechanism envisaged by Clause 9 of the RE Act to empower end-users to choose renewable energy in meeting their energy requirements.

RPS: Renewable Portfolio Standards refers to the policy implemented by the DOE under DOE Circular DC 2017-12-0015 requires electricity suppliers to source an agreed portion of their energy supply from eligible RE Generation Facilities.

REM: The Renewable Energy Market is a market for the trading of Renewable Energy Certificates (RECs) in the Philippines.

RER: Renewable Energy Registrar refers to a unit within the Philippine Electricity Market Corporation, a non-stock, non-profit private corporation designated in accordance with Republic Act No. 9513.

REC: Renewable Energy Certificate refers to a certificate issued by the Registrar representing all renewable and environmental attributes from one MWh of electricity generation sourced from an eligible RE Generation Facility.

UNDP: United Nations Development Programme is a subsidiary organ of the United Nations, an international intergovernmental organization established by treaty.

DOE: Department of Energy refers to the government agency created pursuant to Republic Act No. 7638 whose functions are expanded in Republic Act No. 9136.

ERC: Energy Regulatory Commission refers to the independent quasi-judicial regulatory agency of the Philippine power industry.

TransCo: National Transmission Corporation is a government agency created under Republic Act No. 9136, otherwise known as the Electric Power Industry Reform Act (EPIRA) of 2001 and is also the administrator of the FiT-All Fund, as designated in ERC Resolution No. 16, series of 2012 amending the FIT Rules.

NGCP: National Grid Corporation of the Philippines is a privately owned corporation in charge of operating, maintaining, and developing the country's state-owned power grid, an interconnected system that transmits power from generating facilities to distribution utilities and is also the metering service provider for the WESM.

PEMC: Philippine Electricity Market Corporation was incorporated as a non-profit, non-stock corporation with membership comprising of an equitable representation of electricity industry participants and chaired by the DOE, to be the Autonomous Group Market Operator (AGMO) as well as governing arm of the WESM.

WESM: Wholesale Electricity Spot Market refers to the electricity market established by the DOE in accordance with Section 30 of Republic Act No. 9136 or the Electric Power Industry Reform Act (EPIRA) of 2001.

MO: Market Operator is the entity responsible for the operation of the WESM in accordance with the WESM Rules.

Market Systems: The Market Operator's computer systems utilized for market operations and processes, some of which are related to the REM.

CRSS: Central Registration and Settlement System refers to PEMC's main system for the automation of wholesale and retail registration, customer switching, metering and settlement processes in the WESM.

EMDRP: Electricity Market Database and Reporting Platform is PEMC's market database, which is an Oracle RDBMS.

REM Trading Participant: A Mandated Participant, Generation Company or Green-Energy Option Participant registered with the RE Registrar.

Mandated Participants: An electricity purchaser or load serving entity that is required to comply with the RPS set by the DOE, and that is registered with the RE Registrar.

Data Provider: An entity that is not a REM Trading Participant and is required to provide the Registrar with information under the REM Rules.

RE Generation Facility: An electricity generation facility that utilizes eligible renewable energy technologies as defined by the RE Act.

FiT: Feed-in-Tariff is a uniform fixed tariff paid to eligible RE Generation Facilities in accordance with the RE Act.

K. Qualifications of the Successful Contractor

The Contractor shall have qualified and highly trained project team and/or personnel who are competent in implementing software application development and testing processes, having thorough experience and capability to understand the scope of services and its requirements.

The Contractor should have at least three (3) years of experience in delivering ICT projects preferably for energy markets or renewable energy markets. The Contractor should have at least two (2) successful implementation of Web-based applications.

The Contractor should have a success rate (successfully completed projects versus the number of contracts) of at least ninety percent (90%). In case/s of manpower replacement, the Contractor shall be able to accomplish the same within one (1) week.

The Contractor shall ensure that its corporation, project team and/or personnel has secured updated licenses, work permits and other documents to enable it to perform the services.

The composition of the Contractor's project team and/or personnel shall have the following qualifications:

- a) Business Analyst shall have extensive experience in coordinating with users for the conduct of requirements elicitation, and analysis and translating it to system specifications and extensive experience in development of wide range of software applications in engineering, finance and management.
- b) Project Manager shall have excellent project management skills
- c) System / Database Administrator / Architect shall have extensive skills in database design and development, highly experienced in software, hardware and network configuration and troubleshooting
- d) Programmer / Developer shall be proficient in the programming language chosen for the project
- e) Tester / Quality Assurance Personnel shall be proficient in scheduling and executing various levels of test activities, analyzing test results and in the use of automated tools
- f) Technical Writer shall be highly experienced in various documentation activities in all stages of the software development life cycle

L.Scope of Price Proposal and Schedule of Payments

The Contractor shall be compensated subject to the satisfactory completion and submission of due deliverables.

Deliverables/ Outputs	Percentage of Contract Cost	Review and Approvals Required
Approved Project Management Plan and Quality Management Plan	10%	PREMS Evaluation Team / Panel

Deliverables/ Outputs	Percentage of Contract Cost	Review and Approvals Required
Delivered	14%	PREMS Evaluation Team / Panel
Configured and Tested	23%	
Completed / Developed Modules		PREMS Evaluation Team / Panel
Module 1 and Non-functional Requirements	7%	
Module 2	6%	
Module 3	7%	
Module 4	5%	
Module 5	3%	
Module 6	2%	
Module 7	2%	
Compliant to Final User Acceptance Tests and Defects are Fixed		PREMS Evaluation Team / Panel
Module 1	3%	
Module 2	2%	
Module 3	4%	
Module 4	2%	
Module 5	1%	
Module 6	1%	
Module 7	2%	
Documentation (including Source Code)	6%	PREMS Evaluation Team / Panel
System Integration		
Software Certification*		
Trial Operations Assistance		

**Conduct of Software Certification is not included in the scope of this Terms of Reference*

M. Recommended Presentation of Offer

The Contractor shall prepare a reply to this Terms of Reference using these guidelines. The reply shall be accompanied by a notarized Certification attesting to the fact that the pieces of information submitted are true and correct of the affiant's personal knowledge.

Executive Summary of the Proposed Solution

The Executive Summary shall provide a brief description of the company and proposal.

Contractor Information

The Contractor shall provide the following information:

- a) Company Name
- b) Company Address
- c) Company Web Page
- d) Main business and product line
- e) Number of years in the development, testing and maintenance business
- f) Organizational structure
- g) Contact person (Name, Email, Telephone)
- h) Number of Employees
- i) Audited Financial Statement for the last 3 years and recent Internal Revenue Returns duly stamped by the BIR.

Proposed Services Information

PART 1: Technical Proposal

Item	Description
Industry/Business Process expertise	<input type="checkbox"/> Provide information that the Contractor has staff to support the PREMS or experience in developing settlement applications and preferably metering systems
Technology expertise	<input type="checkbox"/> Provide information that the Contractor has experience in developing on web-based technologies Database: SQL RDBMS, App/Web Server <input type="checkbox"/> Provide information that the Contractor has experience other technologies that can improve PREMS architecture
Capability of the Contractor in terms of completed projects / Rate of Success with other projects Number of projects completed with similar complexity as PREMS and also the timeliness of project completion	<input type="checkbox"/> Provide the number of contracts for Development vs. the Number of successfully completed projects <input type="checkbox"/> Cite examples: Project Name, Description, Original Target Completion Date, Actual Completion Date <input type="checkbox"/> Provide completed projects for energy markets or renewable energy certificate markets
Availability of Facility	<input type="checkbox"/> Provide information that the Contractor has its own facility for: DB, Web Server, Test, Version Control for development

Item	Description
<p>Availability of Manpower/Replacement time for manpower outage/Lead time for mobilization</p> <p>Achieving gender equality and gender mainstreaming are key principles and strategies of UN system agencies, therefore, UNDP encourages the deployment of staff (male/female) at a balanced ratio based on the requirements defined in the TOR. As such, proposers with female key personnel will have an added advantage.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Describe how manpower replacement is being done in the company and identify the lead time in terms of days. <input type="checkbox"/> The Contractor can provide manpower complement for all roles: Programmer, Analyst, Architect, Tester, Project Manager, etc. <input type="checkbox"/> Identify the number of manpower per assigned role
<p>Number of years of experience of Analysts, Programmers, Testers, Project Manager</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Identify roles/names and experience in terms of years and their corresponding level of contribution to the project. Kindly refer to Table 1 and Table 2 for the proposed presentation for this item.



Table 1. Summary of Contractor's Project Team Members' Information (Proposed Presentation)

Name	Position for the Project	Nationality	Employment Status with Firm	Education/ Degree (Year/ Institution)	No. of Years of Relevant Experience	Percent of Man-months

Note: International bidders should include the details of their local representatives.

Table 2. Staffing Requirements

No .	Name of Staff	Monthly staff input (in the form of a bar chart)													Total staff-month input
		1	2	3	4	5	6	7	8	9	10	11	12	n	
1															
2															
3															
n															
											Total				

Full time input 
Part time input 

PART 2: Proof-of-Concept

To determine the Contractor's capability to realize the PREMS project requirements, below are simple functional specifications that need to be demonstrated to the evaluation panel through a Proof-of-Concept. It shall cover a demonstration in principle to verify that the concept of the offered product or solution can potentially be accomplished by the Contractor.

The Contractor shall demonstrate the following features and functionalities:

- ☐ Processing of the Registration of REM Generators, Mandated Participants, GEOP Participants and Data Providers
- ☐ Processing of post-registration transactions such as enrolment of contract counterparties
- ☐ Importing of Meter Data, Bilateral Contract Quantity Data and FiT-All data through submissions of Data Providers
- ☐ Processing of Cessation, Deregistration and Suspension of REM Participants
- ☐ Creation and Allocation of RE Certificates to Mandated Participants
- ☐ Tracking of RE Certificates upon completion of trading and settlement outside the REM
- ☐ Retirement of RE Certificates and generation of report for RPS Compliance

PART 3: Commercial Proposal

The Contractor shall ensure adequate number of manpower resource available throughout the project. It shall maintain standby equipment resources in case the equipment used in the project becomes unavailable for some reason. These measures aim to ensure no project schedule disruptions are attributed to project resources.

It shall have plans for backup and disaster recovery, and shall keep at off-site facilities up-to-date backup copies of software versions and patches currently being developed.

The Financial Proposal shall be deemed to include the cost of all applicable taxes, duties, fees, levies, out-of-pocket expenses, bank charges, and other charges.

Commercial or Financial Proposals shall be evaluated according to the total cost or financial bid. The proposal with the lowest total cost would score 100 points, with other proposals scored in relation to the lowest cost proposal, receiving the number of points given by the following equation.

The score for the Cost of other Financial Proposals shall be computed based on the formula above.

Awarding of Project

Bidders for this project shall be scored and ranked based on the criteria set forth by UNDP in coordination PEMC. The bidder with the highest qualifying score on the evaluation shall be invited for negotiations for the possible awarding of the contract.

o) Annexes and References

Annexes

ANNEX A of the TOR – Requirements Classification

ANNEX B of the TOR – System Infrastructure Design

ANNEX C of the TOR – PREMS Interfaces

ANNEX D of the TOR – Detailed Description of the Modules' Components

ANNEX E of the TOR – Reference Requirements of the Modules' Components

References

1. Republic Act (R.A.) No. 9513, "Renewable Energy Act of 2008". Website: <http://officialgazette.gov.ph/2008/12/16/republic-act-no-9513/>
2. DOE Department Circular No. DC2017-12-0015, Renewable Portfolio Standards (RPS) Rules for On-Grid Areas. Website: <https://www.doe.gov.ph/laws-and-issuances/departement-circular-no-dc2017-12-0015>
3. Renewable Energy Market (REM) Rules. Website: http://www.wesm.ph/inner.php/downloads/renewable_energy_market
4. Green Energy Option Program (GEOP). Website: <https://www.doe.gov.ph/announcements/final-draft-green-energy-option-rules>

ANNEX A – Requirements Classification

This sections shows the ranking of requirements according to business priority using the classifications must have, should have, could have and wish to have (MoSCoW).

Table 3. Definition and Description MoSCoW Requirements Classification

Classification	Definition	Description
M	Must have	These requirements are fundamental to the system. Without them the system will be unworkable and useless.
S	Should have	These are essential requirements for the system. If the Contractor is not able to exactly satisfy these requirements they must provide an alternative or equivalent solution.

C	Could have	These requirements have lower priority in the delivery of the initial system implementation. These are 'nice to have' functions that could be included if the project has enough time and budget, if resources are available these requirements could be delivered towards the end of the project.
W	Want / Wish to have	These requirements are not essential to be delivered in the initial implementation. "W" requirements are included as they have been captured in the requirements gathering phase.

Table 4. MoSCoW Requirements Classification for the PREMS

REQUIREMENT	MoSCoW classification
System Administration	
Access Management	M
Application Administration	M
Registration and Contract Management (Manage Market Standing Data)	
Create and Maintain Participant	M
Create and Maintain Facility	M
View and Maintain Policy Settings	M
Allocate RECs	
Import Data	M
Calculate entitlements	M
Create RECs	M
REC Transactions (Manage Participant Activities)	
Manage participant account activity	M
Manage inter-participant transfers	M
Manage standing orders	S
Bulletin Board	M
Manage RPS Compliance	
Import data	M
Calculate compliance volumes	M
Issue compliance notices	S
Produce compliance reports	S
Manage disputes	S
Data Publication and Reporting	
Website	M
Participant data and reports	S
Registrar data and reports	S
Issue allocation reports	S
Public data and reports	S

REQUIREMENT	MoSCoW classification
Data Interfaces	
Automatic import	S
Data overriding / manual import	M
Monitoring of import process	M
Non-functional Requirements	
Assurance and Security	M
Efficiency and Performance	M
Management	M
Training and Awareness	M
Environments	M

ANNEX B – System Infrastructure Design

Provided below is the PREMS requirement for the System Infrastructure Design.

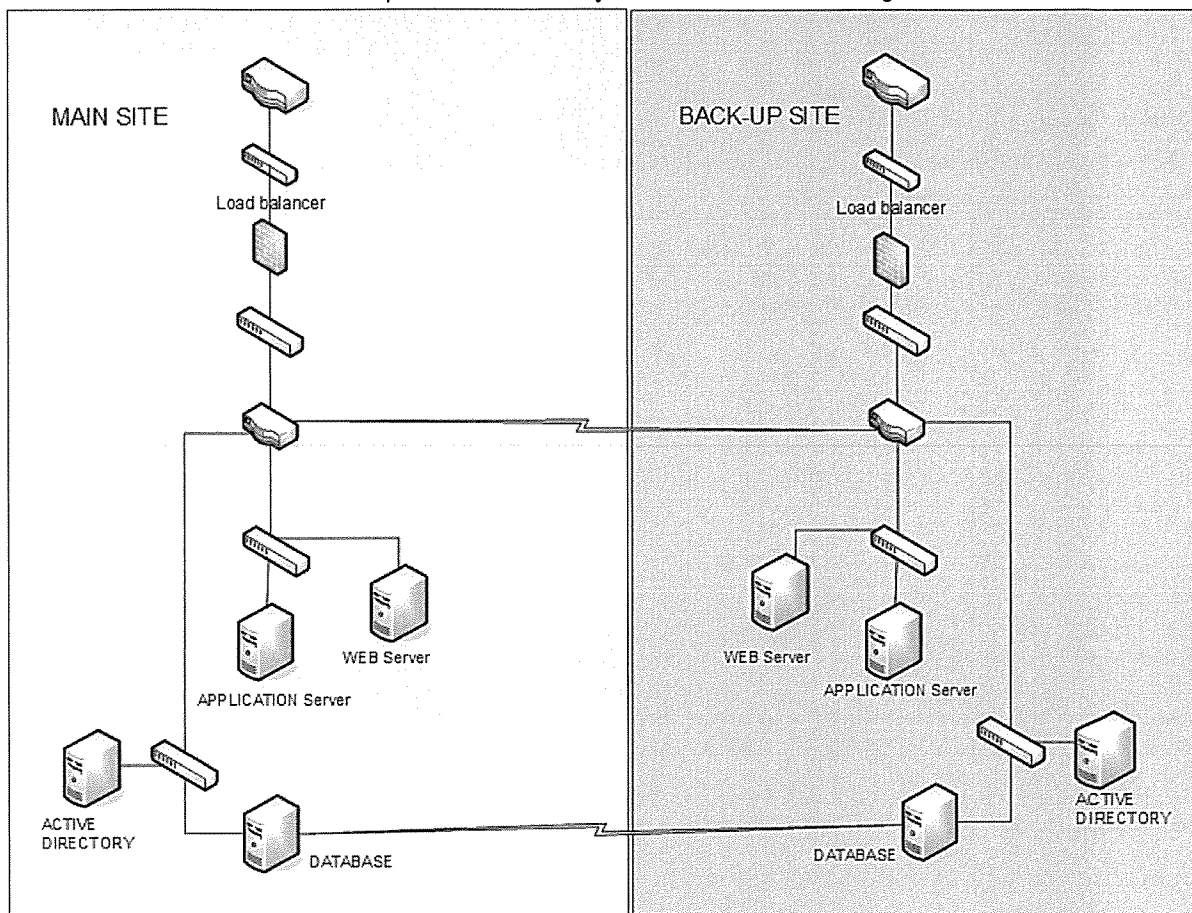


Figure 3. PREMS System Infrastructure Design

Recommended Minimum Server Reference Specifications:

Web and Application Servers: 16-core processor, 64GB memory, 2x1TB SSD

Database: 16-core processor, 128GB memory, 12x1TB SSD

Active Directory: 12-core processor, 32GB memory, 1TB SSD

The above system infrastructure diagram and recommended specifications provide a guide for the Contractor in designing the System Architecture for PREMS infrastructure. The number of hardware (servers, network equipment and other components/peripherals) to be allocated for each environment (production – main and back-up sites; and development/test) must be determined by the Contractor in order to run the proposed solutions for the PREMS in accordance with the performance standards set in the Terms of Reference (this document).

ANNEX C – PREMS Interfaces

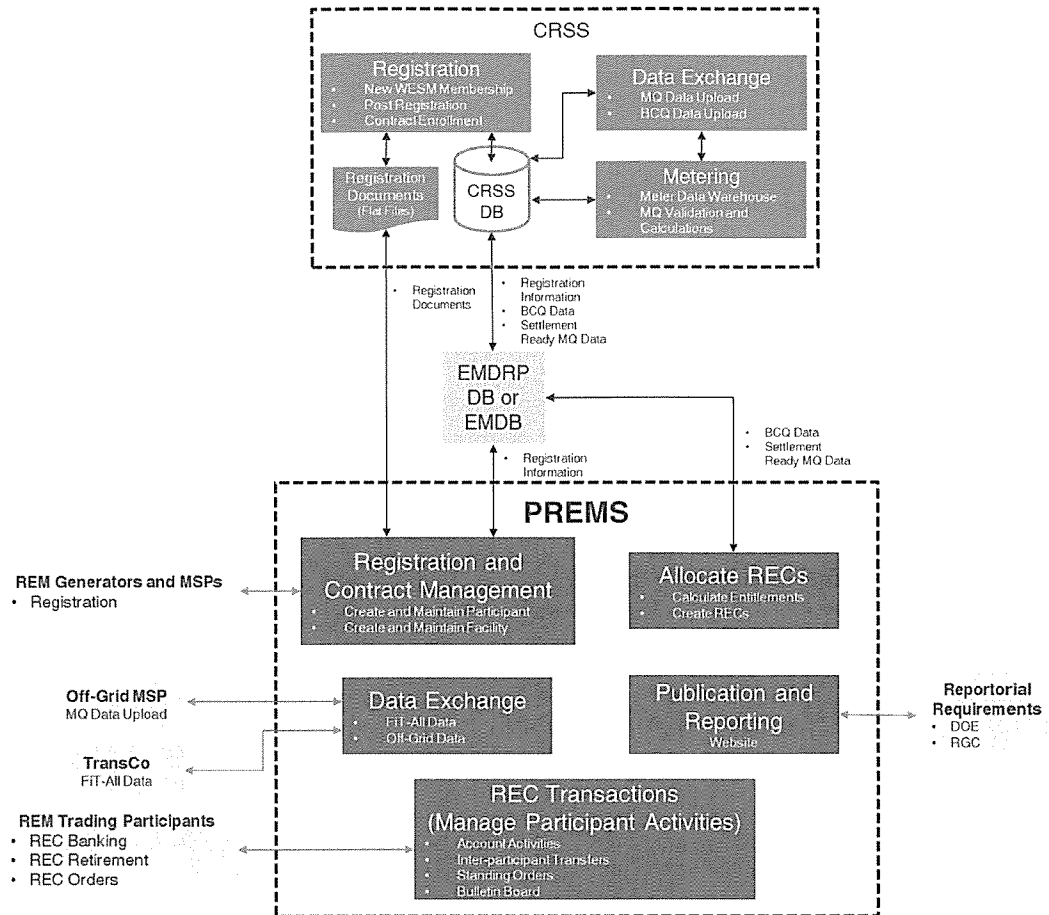


Figure 4. PREMS Interfaces with CRSS, EMDRP and Stakeholders

ANNEX D – Detailed Description of the Modules' Components

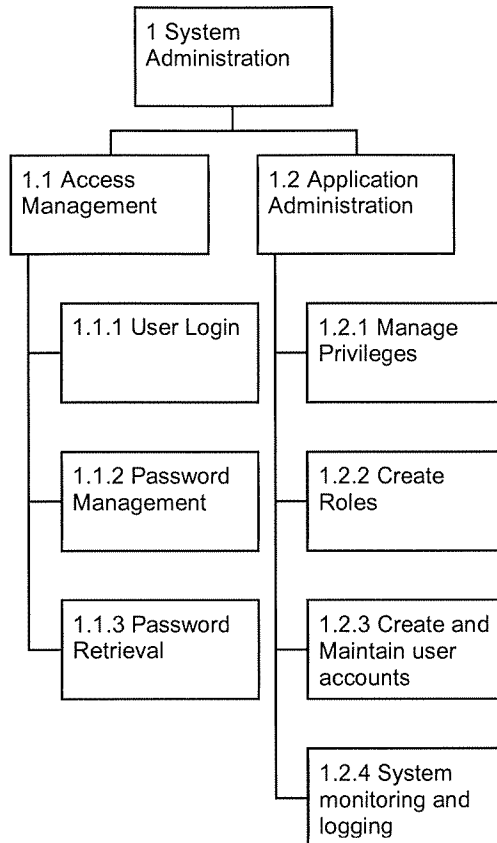


Figure O1. Functional Breakdown: System Administration

Module 1: System Administration

Access Management

The system shall facilitate user login with a standard authentication protocol and mechanism. The system shall facilitate password management and password retrieval.

Application Administration

System administration shall allow administrators to create, view, update or remove privileges, permissions and user roles. System administrators shall have access to central console which allows management of global configuration parameters considering possible changes on parameter values based on policy or regulatory compliance.

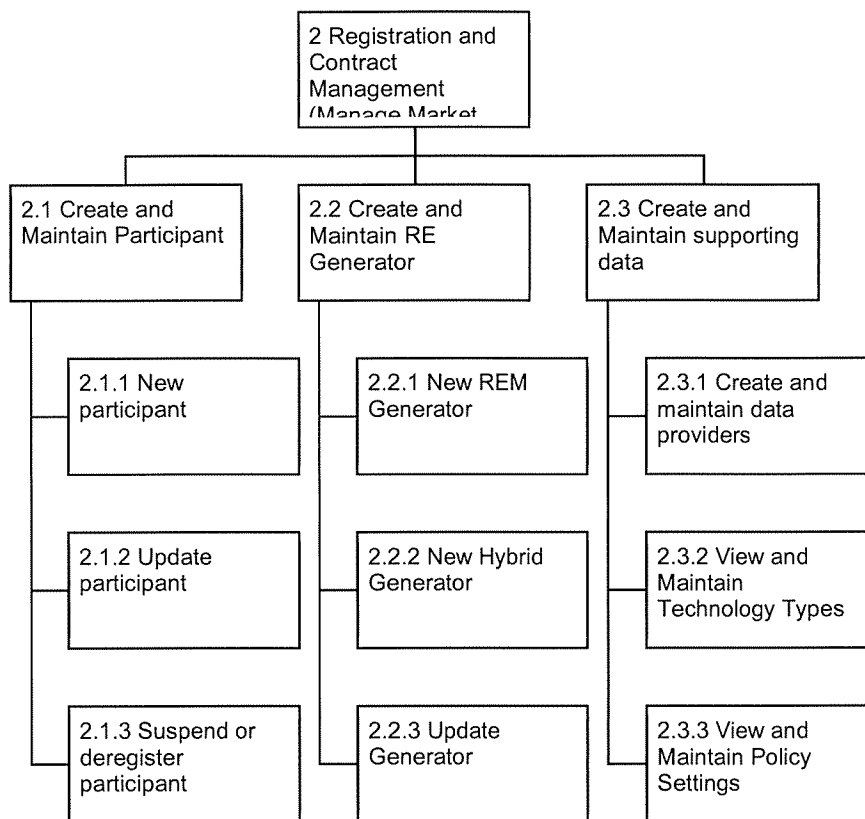


Figure O2. Functional Breakdown: Registration and Contract Management (Manage Market Standing Data)

Module 2: Registration and Contract Management (Manage Market Standing Data)

Create and Maintain Participant

The system shall allow registration, editing and updating of mandated participants and their corresponding information.

Create and Maintain Facility

The system shall allow registration, editing and updating of RE Generator facilities and their corresponding information. If the RE Generator has a 'Hybrid fuel' facility, the system shall require the user to provide additional mandatory information including certified meter and fuel data.

View and Maintain Policy Settings

The system shall include by default, these Data Providers: the WESM Operator (MO), the National Grid Corporation of the Philippines (NGCP), the National Transmission Corporation (TransCo) and the National Power Corporation (NPC).

The system shall allow an RER user to create or alter Data Providers, Technology Types, REC Banking Duration setting and REC Facility Eligibility Duration.

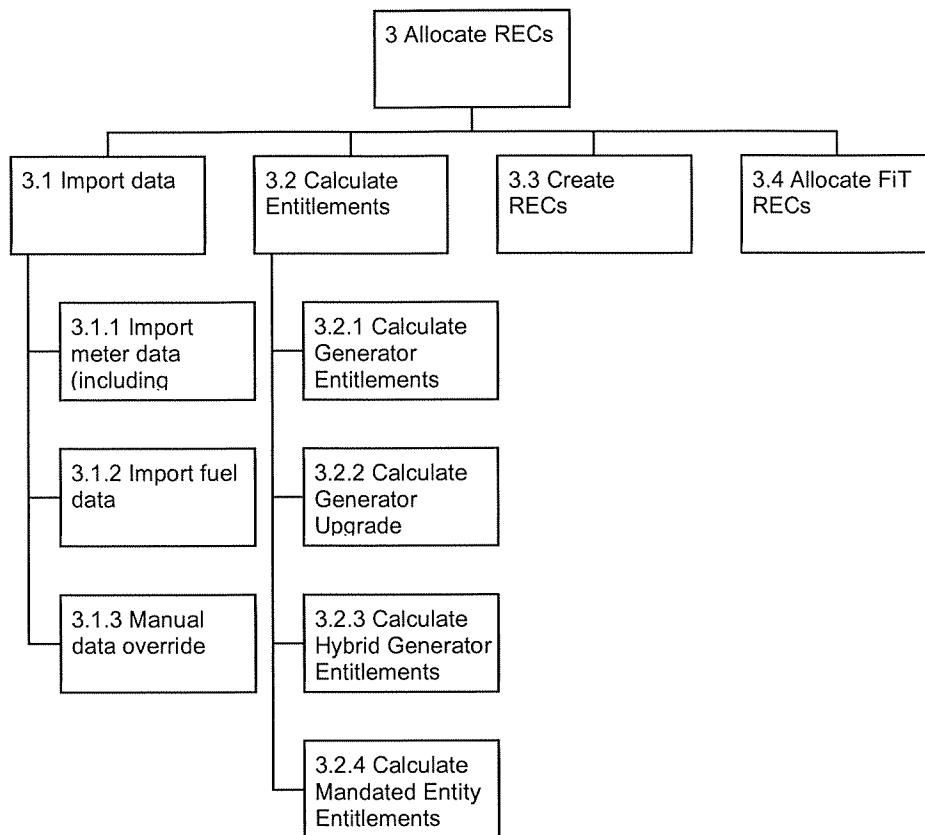


Figure O3. Functional Breakdown: Allocate RECs

Module 3: Allocate RECs

Import Data

The system shall allow import of generation meter, fuel and contract quantity data with a prescribed format. The system shall allow RER users to view, search and filter meter, fuel and contract data submissions, its corresponding header and content and history.

The system shall allow RER users to manually override any data included in submissions, and shall log the details of any such override.

Calculate entitlements

The system shall facilitate calculation of REC entitlements to REM-registered entities based on the assignment below

Table 5. Assignment of REC based on RE transaction method

Renewable Energy Transaction Method	REC Owner
Feed-in-Tariff (FiT)	Allocated to On-Grid Mandated Entities
PSA with non-DCC (DU/EC, RES, etc.)	Non-DCC Counterparty
PSA with DCC	Generator Counterparty
WESM	RE Generator
Net-metering	Host Mandated Entity
Non-WESM Embedded Generation	Host Mandated Entity

Create RECs

The system shall create RECs based on the validated generation and fuel data and the issue the created RECs based on the table above with a Banking Duration configured in the system.

Allocate FiT RECs

The system shall create RECs based on the validated FiT generation data and the issue the created RECs based on calculation of entitlements.

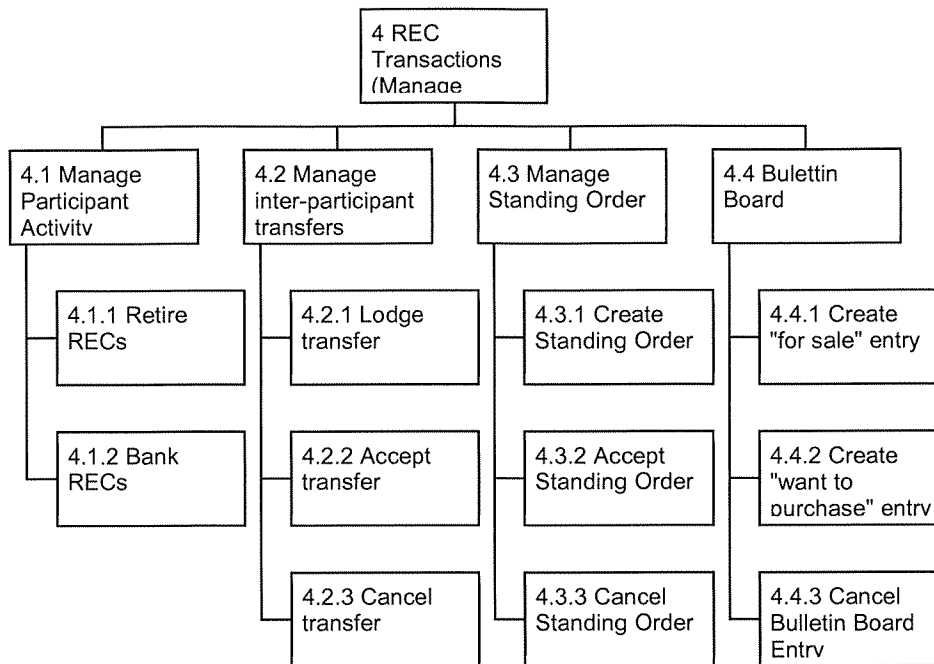


Figure 04. Functional Breakdown: REC Transactions (Manage Participant Activities)

Module 4: REC Transactions (Manage Participant Activities)

Manage participant account activity

The system shall facilitate management of participant activities including retirement and banking of RECs.

Manage inter-participant transfers

The system shall facilitate management of REC transfer activities including lodge, acceptance and cancellation of transfer.

Manage standing orders

The system shall facilitate management of activities for REC orders including the creation, acceptance and cancellation of orders.

Bulletin Board

The system shall include a bulletin board for the creation or cancellation of “for sale” and “wanted to purchase” entries for posting in the REM Website.

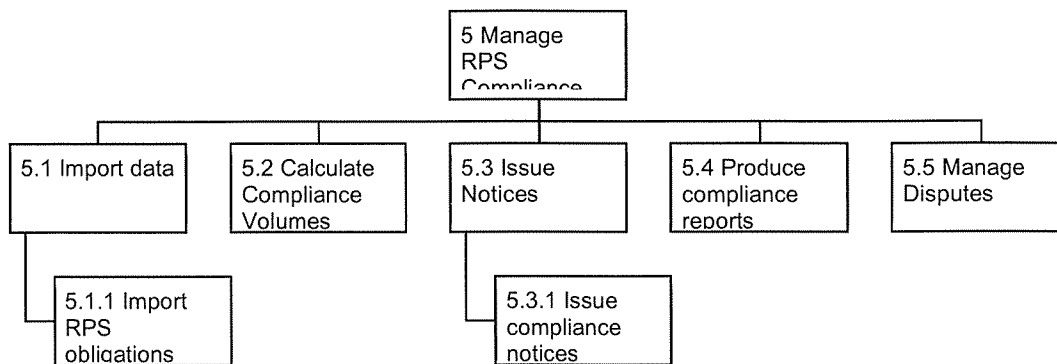


Figure O5. Functional Breakdown: Manage RPS Compliance

Module 5: Manage RPS Compliance

Import data

The system shall allow import of data for RPS compliance and Feed-in-Tariff.

Calculate compliance volumes

The system shall facilitate calculation of compliance volumes for each mandated entity registered in the REM.

Issue compliance notices

The system shall facilitate issuance of notices on the compliance volumes to the mandated entities registered in the REM.

Produce compliance reports

The system shall facilitate generation of reports on the participants' compliance volumes using the graphical user interface.

Manage disputes

The system shall facilitate management of disputes on REC allocation, banking, retirement, orders, transfers and other activities.

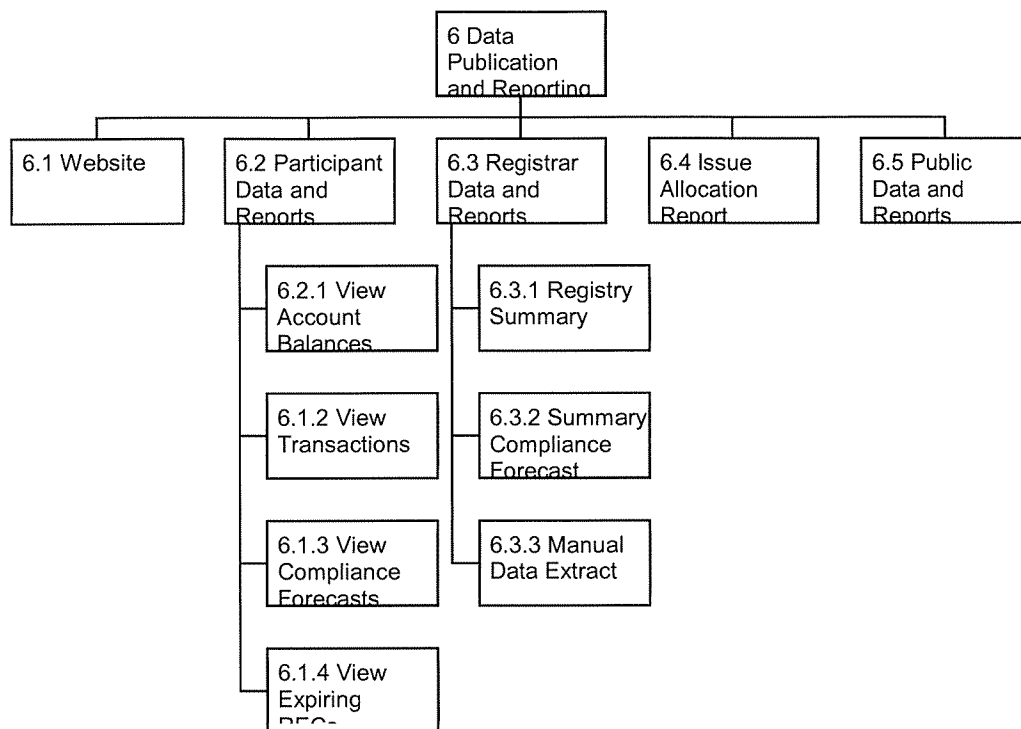


Figure O6. Functional Breakdown: Data Publication and Reporting

Module 6: Data Publication and Reporting

Website

The system shall be accessible through a website login or sign in using the credentials of registered participants and RER users and system administrators. The Website shall facilitate publication of reports, documents and other pertinent information.

Participant data and reports

The system shall allow registered participants to view account balances, transactions, compliance forecasts, REC expiry dates and contract data.

Registrar data and reports

The system shall facilitate generation of registration summary, compliance forecast summary and manual data extraction.

Issue allocation reports

The system shall track created and issued or allocated RECs for generation of allocation reports using the graphical user interface.

Public data and reports

The system shall facilitate generation of public data and reports for posting in the Website.

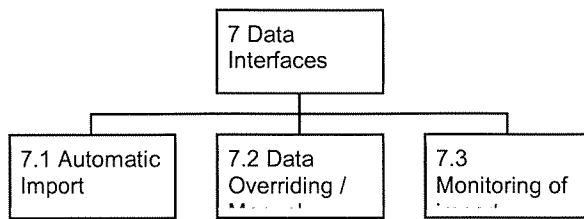


Figure 07. Functional Breakdown: Data Interfaces

Module 7: Data Interfaces

Automatic import

The system shall provide a facility for automatic importing of data from related Market Systems including the CRSS and the EMDRP and other data sources.

Data overriding / manual import

The system shall provide a facility for manual importing of data from related Market Systems including the CRSS and the EMDRP and other data sources such as the TransCo, NGCP and NPC.

Monitoring of import process

The system shall provide a facility for monitoring the status of importing data. The system shall show the status of importing data. It shall indicate whether the import is successful, failed, or manually updated, together with the date and time stamp the task was started and finished.

Non-functional Requirements

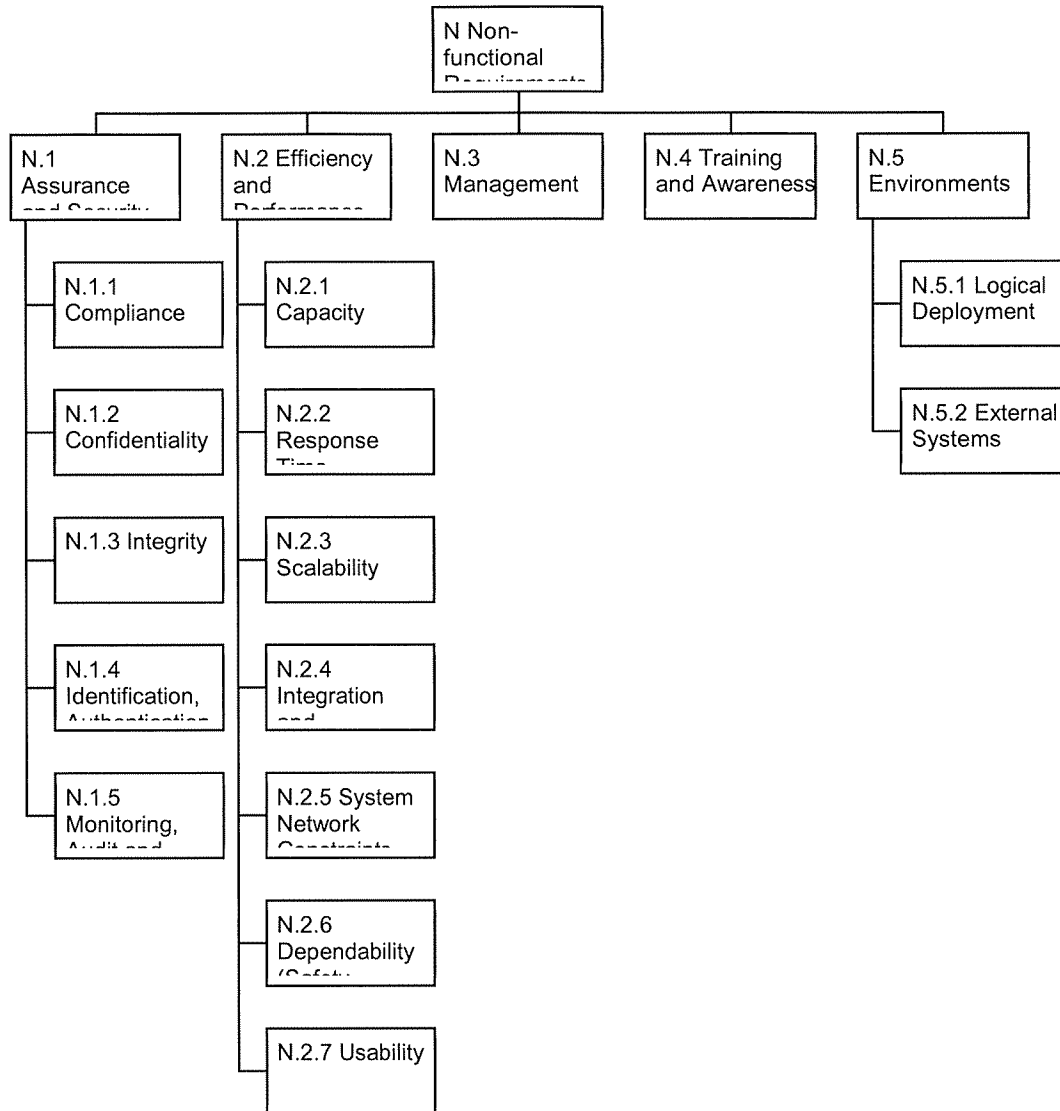


Figure O8. Functional Breakdown: Non-functional Requirements

ANNEX E – Reference Requirements of the Modules' Components

Module 1: System Administration

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
System Administration		1
Access Management		1.1
At the beginning of each session where the user interacts with the system via a web interface, the system shall present the user with a login screen where users need to provide username and password.	M	1.1.1
The system shall allow access to the web portal only if a user has provided the valid credentials.	M	1.1.1
The system shall require 2 factor authentication to authenticate users accessing the system from outside the Registrar's local area network.	M	1.1.1
The system shall allow direct access to the interface through single sign-on via active directory for Registrar users	M	1.1.1
Access to programmatic interfaces shall only be granted upon successful authentication.	M	1.1.1
When a new user is created, a one-time password shall be generated which must be changed when user accesses the web interface for the first time.	M	1.1.2
The system shall allow the user to change their password on successful entry of the existing password	M	1.1.2
All the passwords must be stored in encrypted format after applying appropriate hashing and salting algorithms.	M	1.1.2
The system shall allow application administrators to define and manage password policies such as 1. Minimum and maximum characters 2. Enforce alphanumeric password 3. Minimum number of special characters 4. Maximum no. continuous failed attempts 5. Automatic expiration of password 6. Others	M	1.1.2
Each login attempt along with the IP address shall be logged into the database.	M	1.1.2
In the event of loss of password, user shall be able to submit a new password through the password retrieval functionality on the login screen.	M	1.1.3
Password retrieval functionality shall generate a new one-time password upon submission of valid email address and security answer.	M	1.1.3
One-time password generated through password retrieval facility should be valid for only X number of hours. X should be configurable by an Application Administrator.	M	1.1.3
One-time password generated through password retrieval facility should be changed by the user.	M	1.1.3
Application Administration		1.2
The system shall allow application administrators to create privileges or permissions. Privilege defines authorisation to use a particular functionality, and shall include: 1. Viewing application processes 2. Configuring application processes 3. Viewing application parameters 4. Setting application parameters 5. Viewing audit trails 6. Viewing data of various types 7. Extracting data of various types 8. Altering data of various types	M	1.2.1
The system shall allow Application Administrators to view privileges or permissions.	M	1.2.1
The system shall allow Application Administrators to update privileges or permissions.	M	1.2.1
The system shall allow Application Administrators to remove privileges or permissions.	M	1.2.1
The system shall allow Application Administrators to create user roles, including: 1. Application administrator 2. RER process operator 3. Other RER user 4. Trading participant 5. Regulators, auditor, or other government user	M	1.2.2
The system shall allow an Application Administrator to set or restrict permissions for each user role to perform particular tasks.	M	1.2.2
The system shall allow Application Administrators to view user roles.	M	1.2.2
The system shall allow Application Administrators to update user roles.	M	1.2.2
The system shall allow Application Administrators to remove user roles.	M	1.2.2
The system shall allow Application Administrators to create new users (with details such as first name, last name, e-mail address, security answer, etc.) and assign roles.	M	1.2.3
The system shall allow Application Administrators to view users details and their assigned roles.	M	1.2.3
The system shall allow Application Administrators to update user details and their assigned roles.	M	1.2.3
The system shall allow Application Administrators to deactivate users.	M	1.2.3

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
The system shall allow the Main Participant Contact user account to request other user accounts who can access the same participant data, including: 1. Full name 2. Position title 3. Telephone numbers (direct line, mobile and fax) 4. Level of access	C	1.2.3
The system shall allow Application Administrators to activate users which are either locked or deactivated.	M	1.2.3
The system shall provide a central administration console which allows Application Administrators to manage the system.	M	1.2.4
The administration console shall allow Application Administrators to monitor system wide activity and logs.	M	1.2.4
The administration console shall allow Application Administrators to set and alter global system configuration parameters.	M	1.2.4
The administration console shall allow Application Administrators to manage job scheduling and batch processes.	M	1.2.4

Module 2: Registration and Contract Management (Manage Market Standing Data)

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
Registration and Contract Management (Manage Market Standing Data)		2
Create and Maintain Participant		2.1
The system shall allow an RER user to register a trading participant with the following mandatory information: 1a Registration category (Mandated Participant, Generating Participant, GEOP Participant) 1b Registration category effective date (date) 1c Registration category expiry date (date) 2. Organization full name (text) 3. Organization short name (text) 4. Organization short code (5 character code used to uniquely identify participants in imported data) 5. SEC registration number (text) 6. Business address (text) 7. Main telephone number (text) 8. Main contact user ID (selected from registered users)	M	2.1.1
The system shall allow a trading participant to be registered as either a Mandated Participant or a GEOP Participant, but not both.	M	2.1.1
The system shall allow a trading participant to be registered as Generating Participant alone, or as both Generating Participant and either Mandated Participant or GEOP Participant.	M	2.1.1
Upon creation of a trading participant a unique ID shall be generated to track the entity, and shall remain the same for the life of the entity.	M	2.1.1
Every registration shall have a separate effective date and an expiry date for each registration category	M	2.1.1
The system shall not allow users to enter effective and expiry dates in the past when initially registering a participant.	M	2.1.1
The system shall allow an RER user to edit trading participant registration data at any time.	M	2.1.2
If a user attempts to update data for a trading participant with an expired registration, the system shall alert the user of the expiry status, and require the user to provide a new expiry date in the future before committing the changes.	M	2.1.2
The system shall not allow users to enter effective and expiry dates in the past when updating participant registration data.	M	2.1.2
The system shall allow an RER user to deregister a participant by updating the registration expiry date to the current date.	M	2.1.2
Create and Maintain Facility		2.2
The system shall allow an RER user to register an RE Generator, with the following mandatory information: 1. Facility name (text) 2. Facility short code (5-character code used to uniquely identify facilities in imported data) 3. Registration effective date (date) 4. Registration expiry date (date) 5. Facility type (Restricted to available technology types) 6. Wholesale market participation (WESM, IMEM, None) 7. Embedded (True, False) 8. Off-grid (True, False) 9. Net-metered (True, False) 10. FiT eligible (True, False) 11. Meter data provider (restricted to currently registered data providers and 'Self') 12. Primary Meter ID (format TBC) 13. Contract quantity data provider (restricted to currently registered data providers) and the following optional information: 14. Facility owner (Trading Participant)	M	2.2.1
If an RE generator is registered with 'Wholesale market participation' set to 'WESM', the system shall set the 'Meter data provider' to 'WESM Operator', and shall disable user update of this field.	M	2.2.1
If an RE generator is registered with 'Wholesale market participation' set to 'IMEM', the system shall set the 'Meter data provider' to 'IMEM Operator', and shall disable user update of this field.	M	2.2.1
Upon creation of an RE Generator, a unique ID shall be generated to track the entity, and shall remain the same for the life of the entity.	M	2.2.1
The system shall not allow users to enter effective and expiry dates in the past.	M	2.2.1
If an RE Generator is registered as a 'Hybrid fuel' facility, the system shall require the RER user to provide additional mandatory information as follows: 15a. Renewable fuel	C	2.2.2

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
(text) 15b. Conventional fuel heat rate kJ/kWh (numeric) 16a. Renewable fuel heat rate kJ/kWh (numeric) 16b. Conventional fuel heat rate kJ/kWh (numeric) 17. Fuel data provider (Restricted to currently registered data providers)		
If an RE Generator is registered as a 'Hybrid technology' facility, the system shall require the RER user to provide additional mandatory information as follows: 18a. Renewable technology (Restricted to available technology types) 18b. Conventional technology (Thermal coal, Thermal gas, Thermal liquid, Nuclear) 19. Secondary Meter ID (format to be defined)	C	2.2.2
The system shall allow an RER user to edit RE Generator data at any time.	M	2.2.3
If a user attempts to update data for an RE Generator with an expired registration, the system shall alert the user of the expiry status, and require the user to provide a new expiry date in the future before committing the changes.	M	2.2.3
The system shall not allow users to enter effective and expiry dates in the past when updating RE Generator registration data.	M	2.2.3
View and Maintain Policy Settings		2.3
The system shall allow an RER user to create Data Providers with the following information: 1. Provider name (Text) 2. Provider short code (5 character code to uniquely identify MDP in input data)	M	2.3.1
The system shall include by default three Data Providers: WESM Operator (WESMO) National Grid Corporation of the Philippines (NGCP)	M	2.3.1
The system shall allow an RER user to create Technology types with the following information: 1. Technology Type (Text) 2. Banding rate (numeric) 3. Effective date	M	2.3.2
The system shall include by default ten technology types, each with banding rate of 1: Biomass Geothermal Hybrid fuel Hybrid technology Hydro impounding Hydro run-of-river Ocean Solar Waste Wind	M	2.3.2
The system shall allow an RER user to alter the banding rate for the default technology types, with a new effective date in the future.	S	2.3.2
The system shall include a setting for REC Banking Duration (years), initially set to 3.	M	2.3.3
The system shall allow an RER user to alter the REC Banking Duration setting, as long as the user specifies an effective date in the future.	S	2.3.3
The system shall include a setting for REC Facility Eligibility Duration (years), initially set at 999.	S	2.3.3
The system shall allow an RER user to alter the REC Facility Eligibility Duration setting, as long as the user specifies an effective date in the future.	S	2.3.3

Module 3: Allocate RECs

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
Allocate RECs		3
Import Data		3.1
The system shall allow submission of generation metering data via programmatic interface.	M	3.1.1
The system shall accept generation metering data with the following format: 1. Data provider short code 2. Facility short code 3. Meter ID (format TBC) 4. Meter period (YYYYMM) 5. Timestamp (YYYYMMDDhhmmss) 6. Meter quantity (MWh)	M	3.1.1
If meter data is uploaded for a period/facility/meter ID combination where data already exists, the prior data shall be retained, and the new data stored with an effective date of the upload time.	M	3.1.1
The system shall reject meter data submissions for a period/facility/meter ID combination where data already exists, if the Timestamp on the data is older than the timestamp on the data which already exists.	M	3.1.1
The system shall allow RER users to view, search and filter a list of all meter data submissions.	S	3.1.1
The system shall allow RER users to view header and content for individual meter data submissions.	S	3.1.1
The system shall allow RER users to view meter data history for a facility, including latest values for each period, and all previous values for each period.	S	3.1.1
The system shall allow submission of fuel quantity data via programmatic interface.	C	3.1.2
The system shall accept fuel quantity data with the following format: 1. Data provider short code 2. Facility short code 3. Fuel type 4. Meter period (YYYYMM) 5. Timestamp (YYYYMMDDhhmmss) 6. Meter quantity (kJ)	C	3.1.2
If fuel quantity data is uploaded for a period/facility/fuel type combination where data already exists, the prior data shall be retained, and the new data stored with an effective date of the upload time.	C	3.1.2
The system shall reject fuel quantity data submissions for a period/facility/fuel type combination where data already exists, if the Timestamp on the data is older than the timestamp on the data which already exists.	C	3.1.2
The system shall allow RER users to view, search and filter a list of all fuel quantity data submissions.	C	3.1.2
The system shall allow RER users to view header and content for individual fuel quantity data submissions.	C	3.1.2
The system shall allow RER users to view fuel quantity data history for a facility, including latest values for each period, and all previous values for each period.	C	3.1.2
The system shall allow submission of contract quantity data via programmatic interface.	M	3.1.3
The system shall allow submission of contract quantity data with the following format: 1. Data provider short code 2. Facility short code 3. Data period (YYYYMM) 4. Timestamp (YYYYMMDDhhmmss) 5. Contract Counterparty Trading Participant short code 6. Contract Quantity (MWh)	M	3.1.3
The system shall reject any contract quantity data submission for a period/facility/counterparty combination for which RECs have already been issued.	M	3.1.3
If contract quantity data is uploaded for a period/facility/counterparty combination where data already exists, and RECs have not yet been issued for that period, then the prior data shall be retained, and the new data stored with an effective date of the upload time.	M	3.1.3
The system shall reject contract quantity data submissions for a period/facility/counterparty combination where data already exists, if the Timestamp on the data is older than the timestamp on the data which already exists.	M	3.1.3
The system shall allow RER users to view, search and filter a list of all contract quantity data submissions.	S	3.1.3
The system shall allow RER users to view header and content for individual contract quantity data submissions.	S	3.1.3

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
The system shall allow RER users to view contract quantity data history for a facility, including latest values for each period, and all previous values for each period.	S	3.1.3
The system shall allow RER users to manually override any data included in submissions, and shall log the details of any such override.	M	3.1.4
Calculate entitlements		3.2
The system shall have a GUI facility to fetch and prepare data from 3.1 for calculations under 3.2	M	3.2
Calculate Generator entitlements The system shall have a GUI facility to trigger calculation of generator REC entitlements subject to the relevant Clauses of the REM Rules and relevant REM Manual/s Entitlements will be based on the following: <ul style="list-style-type: none"> Generating facility's commercial operations date (must be after effectivity of RE Act of 2008) Generator MWH Metered Quantities (MQ) Power Supply Agreement with Directly Connected Customers (DCC) WESM pool or Market transactions 	M	3.2.1
Calculate Generator upgrade entitlements The system shall have a GUI facility to trigger calculation of generator REC entitlements subject to the relevant Clauses of the REM Rules and relevant REM Manual/s Entitlements will be based on the following: <ul style="list-style-type: none"> Portion of generator MWH MQ upgraded after the effectivity of RE Act of 2008 Generator MWH Metered Quantities (MQ) Power Supply Agreement with Directly Connected Customers (DCC) WESM pool or Market transactions 	M	3.2.2
Calculate hybrid generator entitlements The system shall have a GUI facility to trigger calculation of generator REC entitlements subject to the relevant Clauses of the REM Rules and relevant REM Manual/s Entitlements will be based on the following: <ul style="list-style-type: none"> Portion of generator MWH MQ attributed to the Renewable Energy Resource Generator MWH Metered Quantities (MQ) Power Supply Agreement with Directly Connected Customers (DCC) WESM pool or Market transactions 	M	3.2.3
Calculate Mandated Participant entitlement The system shall have a GUI facility to trigger calculation of Mandated Participant REC entitlements subject to the relevant Clauses of the REM Rules and relevant REM Manual/s Entitlements will be based on the following: <ul style="list-style-type: none"> Power Supply Agreement with an eligible RE generator Power Supply Agreement with Directly Connected Customers (DCC) Total monthly MQ of RE resource through Net Metering generation under the Mandated Participant's distribution grid Total monthly MQ of RE facilities which are Non-WESM and classified embedded generation under the Mandated Participant's distribution grid 	M	3.2.4
Create RECs		3.3
Create RECs with the following properties: <ul style="list-style-type: none"> Validity duration (configurable) and the corresponding expiry date of the REC; The name, vintage and technology type of the <i>REM Generator</i> whose <i>Renewable Electricity</i> generation is the source of the <i>REC</i>; The start date and end date of the <i>WESM Billing Period</i> or <i>REM Quarter</i> for which the <i>REC</i> was issued; The date on which the <i>REC</i> was issued; A serial number or reference number uniquely identifying the REC; (configurable to either on or off) Generating Plant which produced the MWH corresponding to the REC; and 	M	3.3

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
<ul style="list-style-type: none"> (configurable to either on or off) Location of the Generating Plant which produced the MWH corresponding to the REC. <p>Created RECs shall be assigned or issued to relevant REM Trading Participants based on calculations under 3.2</p> <p>Notification for expiring RECs XX months (configurable) before expiration</p> <p>Expired RECs will be automatically transferred to the expiry sub-account</p>		
<p>The system shall provide a GUI facility to import or accept FiT payment data (CSV, XLS, etc.) of the following:</p> <ul style="list-style-type: none"> Distribution Utilities (DU) Electric Cooperatives (EC) Distributors of Economic Zones Retail Electricity Suppliers (RES) and Suppliers of Last Resort (SOLR) Directly Connected Customers (DCC) 	M	3.4
<p>The system shall provide a GUI facility to fetch monthly Meter Quantity (MQ) data of the following (from module 3.1.1):</p> <p>1. Mandated participants</p> <p>2. Total MQ of load serving entities:</p> <ul style="list-style-type: none"> Distribution Utilities (DU) Electric Cooperatives (EC) Distributors of Economic Zones Retail Electricity Suppliers (RES) and Suppliers of Last Resort (SOLR) Directly Connected Customers (DCC) <p>3. Total MQ of FiT-eligible generators</p>	M	3.4
The system shall provide a GUI facility to fetch monthly DCC contract data from 3.1.3	M	3.4
<p>The system shall provide a GUI facility to calculate the MWH and RECs from FiT assigned to Mandated Participants based on the following methodology and equations:</p> $REC_{m,i} = \lfloor MWH_a + FCO_{m-1} + MWH_{inc} \rfloor$	M	3.4
<p>Where: $REC_{m,i}$ is the Monthly FiT Generation Share equivalent to the total number of RECs of a <i>Mandated Participant i</i> for month <i>m</i></p> <p>MWH_a is the MWH from FiT allocated to <i>Mandated Participant i</i> in respect of its <i>Metered Quantity</i> and <i>FiT-All Tariff</i> payment in respect of month <i>m</i></p> <p>FCO_{m-1} is the fractional MWH from FiT allocated to <i>Mandated Participant i</i> from the previous month (<i>m</i> – 1), if there are any</p> <p>MWH_{inc} is the MWH from FiT allocated to <i>Mandated Participant i</i> equivalent to the integer value of the sum of its incremental MWH, if there are any</p> $MWH_a = MWH_m \times \frac{MQ_{m,i}}{\sum MQ_{m,cust}} \times PE_{m,i}$ <p>Where: MWH_a is the MWH from FiT-eligible RE allocated to <i>Mandated Participant i</i> in respect of its <i>Metered Quantity</i> and <i>FiT-All Tariff</i> payment</p> <p>MWH_m is the total MWH generation output from all <i>FiT-Eligible facilities</i> for month <i>m</i></p> <p>$MQ_{m,i}$ is the MWH <i>Metered Quantity</i> of <i>Mandated Participant i</i> for month <i>m</i></p> <p>$MQ_{m,cust}$ is the MWH <i>Metered Quantities</i> of all wholesale customers for month <i>m</i></p> <p>$PE_{m,i}$ is the <i>FiT-All</i> payment efficiency of <i>Mandated Participant i</i> for month <i>m</i></p>		
The Generation Companies who are counterparties of Directly Connected Customers shall be issued with corresponding FiT generation RECs based on their aggregated Bilateral Contract Quantities (configurable) with the latter		

Requirement	MoSCoW classification	Functional Hierarchy Reference Map												
<p>Incremental values</p> <p>Incremental or fractional MWH from FiT resulting from the rounding down of REC allocation shall form part of the Mandated Participants REC allocation for the succeeding month</p> <p>Incremental allocation of MWH from FiT-eligible RE facilities resulting from the non-remittance by the <i>Mandated Participants</i> shall form part of the <i>Mandated Participants'</i> allocation (as $MWH_{UnpaidFiT,MP}$) upon its full payment of the <i>FiT-All</i> obligation, subject to the timeline provided in the relevant REM Manual</p> <p>Incremental MWH from FiT-eligible RE facilities resulting from any of the following:</p> <p>a. Unpaid FiT All by the On-grid Mandated Participant due to non-payment of the FiT All by its end users described in the relevant REM Manual, and</p> <p>b. Sourcing of Directly Connected Customers of its supply from the WESM described in the relevant REM Manual</p> <p>will form part of the <i>Mandated Participant's</i> MWH_{inc} and shall be apportioned to the <i>Mandated Participants</i> based on their monthly metered energy quantity applying the equation:</p> $MWH_{inc} = MWH_{UnpaidFiT,MP} + (MWH_{UnpaidFiT,EU} + MWH_{WESM DCC}) \frac{MQ_{m,i}}{\sum MQ_{m,cust}}$ <p>Where:</p> <table> <tr> <td>MWH_{inc}</td> <td>is the MWH from FiT-eligible RE facilities allocated to <i>Mandated Participant i</i> equivalent to the integer value of the sum of its incremental MWH according to the relevant REM Manual</td> </tr> <tr> <td>$MWH_{UnpaidFiT,MP}$</td> <td>is the MWH corresponding to the <i>FiT All</i> Obligation of a <i>Mandated Participant i</i>, with delayed payment</td> </tr> <tr> <td>$MQ_{m,i}$</td> <td>is the MWH <i>Metered Quantity</i> of <i>Mandated Participant i</i> for month <i>m</i></td> </tr> <tr> <td>$MQ_{m,cust}$</td> <td>is the MWH <i>Metered Quantities</i> of all wholesale customers for month <i>m</i></td> </tr> <tr> <td>$MWH_{UnpaidFiT,EU}$</td> <td>is the total MWH corresponding to the <i>FiT All</i> Obligation of all <i>Mandated Participant</i> for month <i>m</i>, not paid by the end-users</td> </tr> <tr> <td>$MWH_{WESM DCC}$</td> <td>is the total MWH corresponding to the WESM purchases of all the <i>Directly Connected Customers</i>, for month <i>m</i></td> </tr> </table>	MWH_{inc}	is the MWH from FiT-eligible RE facilities allocated to <i>Mandated Participant i</i> equivalent to the integer value of the sum of its incremental MWH according to the relevant REM Manual	$MWH_{UnpaidFiT,MP}$	is the MWH corresponding to the <i>FiT All</i> Obligation of a <i>Mandated Participant i</i> , with delayed payment	$MQ_{m,i}$	is the MWH <i>Metered Quantity</i> of <i>Mandated Participant i</i> for month <i>m</i>	$MQ_{m,cust}$	is the MWH <i>Metered Quantities</i> of all wholesale customers for month <i>m</i>	$MWH_{UnpaidFiT,EU}$	is the total MWH corresponding to the <i>FiT All</i> Obligation of all <i>Mandated Participant</i> for month <i>m</i> , not paid by the end-users	$MWH_{WESM DCC}$	is the total MWH corresponding to the WESM purchases of all the <i>Directly Connected Customers</i> , for month <i>m</i>		
MWH_{inc}	is the MWH from FiT-eligible RE facilities allocated to <i>Mandated Participant i</i> equivalent to the integer value of the sum of its incremental MWH according to the relevant REM Manual													
$MWH_{UnpaidFiT,MP}$	is the MWH corresponding to the <i>FiT All</i> Obligation of a <i>Mandated Participant i</i> , with delayed payment													
$MQ_{m,i}$	is the MWH <i>Metered Quantity</i> of <i>Mandated Participant i</i> for month <i>m</i>													
$MQ_{m,cust}$	is the MWH <i>Metered Quantities</i> of all wholesale customers for month <i>m</i>													
$MWH_{UnpaidFiT,EU}$	is the total MWH corresponding to the <i>FiT All</i> Obligation of all <i>Mandated Participant</i> for month <i>m</i> , not paid by the end-users													
$MWH_{WESM DCC}$	is the total MWH corresponding to the WESM purchases of all the <i>Directly Connected Customers</i> , for month <i>m</i>													
The system shall have a GUI facility to finalize calculations and allocate or assign RECs to Mandated Participants based on calculate function of 5.1.2	M	3.4												
The system shall accumulate and track, for each REM Trading Participant, un-assigned MWH or unissued RECs due to unpaid FiT-All tariff in a container sub-account in compliance to the relevant REM Manual	M	3.4												

Module 4: REC Transactions (Manage Participant Activities)

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
REC Transactions (Manage Participant Activities)		4
Manage participant account activity		4.1
<p>The system shall allow sorting filtering, and selecting RECs via Reference Number, Expiration Date and certificate status (expired or active) via GUI</p> <p>The system shall allow a REM Trading Participant to retire REC/s, which has not yet expired and has not been previously retired, for RPS compliance through a GUI</p> <p>The system shall move the retired REC/s from the REM Trading Participant's active sub-account to the REM Trading Participant's retirement sub-account</p> <p>The system shall notify the REM Trading Participant through the GUI (Must Have) and e-mail (Should have) of the successful or failed retirement transaction</p> <p>The system shall generate a unique transaction ID for the retirement transaction and retirement reversal transaction</p> <p>Each transaction ID shall contain the details of the REC/s retired and reversed retirement (e.g., Reference Number, Date Retired, User)</p> <p>(Must Have) Configurable Feature: The system shall allow a REM Trading Participant to submit a reversal request, subject to the Registrar's acceptance, then the system shall move the relevant RECs from the REM Trading Participant's Retirement Sub-account back into the REM Trading Participant's active sub-account</p>	M	4.1.1
<p>The system shall allow sorting filtering, and selecting RECs via Reference Number, Expiration Date and certificate status (banked or active) via GUI</p> <p>The system shall allow a REM Trading Participant to bank REC/s, which has not yet expired, has not yet been retired and has not been previously banked, for RPS compliance through a GUI</p> <p>The system shall move the banked REC/s from the REM Trading Participant's active sub-account to the REM Trading Participant's reserve sub-account</p> <p>The system shall notify the REM Trading Participant through the GUI (Must Have) and e-mail (Should have) of the successful or failed banking transaction</p> <p>The system shall generate a unique transaction ID for the banking transaction</p> <p>Each transaction ID shall contain the details of the REC/s banked (e.g., Reference Number, Date Banked, User)</p> <p>The system shall notify the REM Trading Participant via GUI for expiring RECs monthly (configurable)</p> <p>The system shall allow a REM Trading Participant to move REC/s from the reserve sub-account to the REM Trading Participant's active sub-account</p>	M	4.1.2
Manage inter-participant transfers		4.2
<p>The system shall allow sorting filtering, and selecting RECs via Reference Number, Expiration Date and certificate status (active) via GUI</p> <p>The system shall not allow a REC that has already been surrendered or retired to be transferred to another REM Trading Participant</p> <p>The system shall allow a REM Trading Participant via GUI to lodge or update (for rectification) a transfer (one-off transfer) of RECs from their active sub-account to another REM Trading Participant's active sub-account. Subject to input via GUI of the volume (number of RECs), price (total price of the trade) and REM Trading Participant name.</p> <p>The system shall allow the selling REM Trading Participant to input the volume and price details via GUI.</p> <p>The system shall notify the REM Trading Participant through the GUI (Must Have) and e-mail (Should have) of the successful or failed creation of transfer transaction</p> <p>The system shall generate a unique transaction ID for the lodge transfer transaction</p> <p>Each transaction ID shall contain the details of the REC/s transferred (e.g., Reference Number, Date Created or Lodged, Buyer and Seller)</p>	M	4.2.1

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
<p>The system shall allow the buying REM Trading Participant to accept or return (for rectification) the volume and price details via GUI, initiated by the selling REM Trading Participant.</p> <p>The system shall allow a REM Trading Participant via GUI to accept a lodged transfer (one-off transfer) of RECs from another REM Trading Participant's active sub-account. Subject to acceptance via GUI of the volume (number of RECs) and price (total price of the trade).</p> <p>The system shall generate a unique transaction ID for the acceptance of lodge transfer transaction</p> <p>Each transaction ID shall contain the details of the REC/s transferred (e.g., Reference Number, Date Accepted, Buyer and Seller)</p> <p>The system shall notify the selling and buying REM Trading Participant through the GUI (Must Have) and e-mail (Should have) of the successful or failed transfer transaction</p>	M	4.2.2
<p>The system shall allow sorting filtering, and selecting pending (un-accepted) transfers via Transaction ID, REM Trading Participant name, Date, Volume (number of RECs) and price (total price of the trade) via GUI</p> <p>The system shall allow a REM Trading Participant via GUI to cancel a pending (un-accepted) or a returned (for rectification) transfer (one-off transfer) of RECs</p> <p>The system shall notify the REM Trading Participant through the GUI (Must Have) and e-mail (Should have) of the successful or failed cancellation of transfer transaction</p> <p>The system shall generate a unique transaction ID for the cancellation of transfer transaction</p> <p>Each transaction ID shall contain the details of the REC/s under the cancellation of transfer transaction (e.g., Reference Number, Date Cancelled, Buyer and Seller)</p>	M	4.2.3
Manage standing orders		4.3
<p>The system shall allow REM Trading Participants to create or update (for rectification) Standing Orders to transfer a specified number of RECs at a specified price (both via GUI) to a specified REM Trading Participant name at a date inputted by the selling REM Trading Participant</p> <p>The system shall check if the REM Trading Participant has enough number of RECs on the active sub-account based on the created standing order on the scheduled date of transaction inputted</p> <p>The system shall notify via GUI (Must Have) and e-mail (Should Have) the REM Trading participant if it has insufficient number of RECs for the standing order XX days (configurable) prior to the scheduled date of standing order (transfer)</p> <p>The system shall notify the REM Trading Participant through the GUI (Must Have) and e-mail (Should have) of the successful or failed creation of standing order transaction</p> <p>The system shall generate a unique transaction ID for the creation of standing order transaction</p> <p>Each transaction ID shall contain the details of the REC/s transferred (number of certificates, Date Created, Buyer and Seller)</p>	S	4.3.1
<p>The system shall allow the buying REM Trading Participant to accept or return (for rectification) the volume and price details via GUI.</p> <p>The system shall allow a REM Trading Participant via GUI to accept a standing order (transfer) of RECs from another REM Trading Participant's active sub-account. Subject to acceptance via GUI of the volume (number of RECs) and price (total price of the trade).</p> <p>The system shall generate a unique transaction ID for the acceptance of standing order (transfer) transaction</p> <p>Each transaction ID shall contain the details of the REC/s transferred (e.g., Reference Number, Date Accepted, Buyer and Seller)</p> <p>The system shall notify the selling and buying REM Trading Participant through the GUI (Must Have) and e-mail (Should have) of the successful or failed standing order (transfer) transaction</p>	S	4.3.2

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
<p>The system shall allow sorting filtering, and selecting pending (un-accepted) standing orders (transfers) via Transaction ID, REM Trading Participant name, Date, Volume (number of RECs) and price (total price of the trade) via GUI</p> <p>The system shall allow a REM Trading Participant via GUI to cancel a pending (un-accepted) or a returned (for rectification) standing order (transfer) of RECs</p> <p>The system shall notify the REM Trading Participant through the GUI (Must Have) and e-mail (Should have) of the successful or failed cancellation of standing order (transfer) transaction</p> <p>The system shall generate a unique transaction ID for the cancellation of standing order (transfer) transaction</p> <p>Each transaction ID shall contain the details of the REC/s under the cancellation of standing order (transfer) transaction (e.g., Reference Number, Date Cancelled, Buyer and Seller)</p>	S	4.3.3
Bulletin Board		4.4
<p>The system shall allow sorting filtering, and selecting RECs via Reference Number, Expiration Date and certificate status (active or banked) via GUI</p> <p>The system shall allow REM Trading Participants to create or update "for sale" entries for a specified number of RECs at a specified price (both via GUI) and input the contact details (e.g. contact person and contact number) which will be viewable to all registered REM Trading Participants</p> <p>Alternative: The system shall allow a platform to provide the sellers with the contact details (for interested buyers)</p> <p>The system shall allow a REM Trading Participant to mark a "for sale" entry as completed</p> <p>The system shall check if the REM Trading Participant has enough number of RECs on the active sub-account based on the created "for sale" entry</p> <p>The system shall notify via GUI the REM Trading participant if it has insufficient number of RECs for the created "for sale" entry</p> <p>The system shall notify the REM Trading Participant through the GUI (Must Have) and e-mail (Should have) of the successful or failed creation of "for sale" entry</p> <p>The system shall generate a unique transaction ID for the creation of "for sale" entry</p> <p>Each transaction ID shall contain the details of the REC/s under the "for sale" entry (number of certificates, Date Created, user who created)</p>	M	4.4.1
<p>The system shall allow REM Trading Participants to create or update "want to purchase" entries for a specified number of RECs at a specified price (both via GUI) and input the contact details (e.g. contact person and contact number) which will be viewable to all registered REM Trading Participants</p> <p>Alternative: The system shall allow a platform to provide the buyers with the contact details (for interested sellers)</p> <p>The system shall allow a REM Trading Participant to mark a "want to purchase" entry as completed</p> <p>The system shall notify the REM Trading Participant through the GUI (Must Have) and e-mail (Should have) of the successful or failed creation of "want to purchase" entries</p> <p>The system shall generate a unique transaction ID for the creation of "want to purchase" entries</p> <p>Each transaction ID shall contain the details of the REC/s under "want to purchase" entries (number of certificates, Date Created, User)</p>	M	4.4.2
<p>The system shall allow sorting filtering, and selecting pending (incomplete) bulletin board entries ("for sale" and "want to purchase") via Transaction ID, Date, Volume (number of RECs) and price (total price of the trade) via GUI</p> <p>The system shall allow a REM Trading Participant via GUI to cancel a pending (incomplete) bulletin board entry of RECs</p> <p>The system shall notify the REM Trading Participant through the GUI (Must Have) and e-mail (Should have) of the successful or failed cancellation of bulletin board entry</p>	M	4.4.3

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
<p>The system shall generate a unique transaction ID for the cancellation of bulletin board entry</p> <p>Each transaction ID shall contain the details of the REC/s under the bulletin board entry (e.g., Reference Number-for RECs under "for sale" and number of RECs-for RECs under "want to purchase" entries, Price, Date Cancelled, user)</p>		

Module 5: Manage RPS Compliance

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
Import data and RPS target determination		5.1
The system should be able to retrieve from the database the following Number of retirement RECs and net electricity sales for each Mandated Participant including the generators supplying to the Directly-connected customers.	M	5.1.1
The system should allow for the setting of the RPS initial percentage for year 0 and the annual increment for the RPS percentage.	M	5.1.2
Calculate compliance volumes		5.2
The system should be able to compute for each Mandated Participant the required REC/ RPS Compliance Level determined through getting the product of the individual net electricity sales for the previous year and the sum of the RPS initial percentage for year 0 and cumulative annual increment for the RPS percentage.	M	5.2.1
The system should be able to determine the number of RECs deposited in the Retirement Sub-account of each Mandated Participant	M	5.2.2
Issue Statements		5.3
The system should be able to generate the Preliminary Statement for each Trading Participant (Mandated Participant and Generators) containing (at the very least) the following values: RECs contained in the retirement sub-account, summary/ list of transactions per year, REC shortfall computed by deducting RECs in the retirement account from the determined RPS Compliance Level. The statement is to be issued on a frequency that is configurable.	M	5.3.1
The system should be able to generate the Final Statement for each Trading Participant (Mandated Participant and Generators) containing (at the very least) the following values: RECs contained in the retirement sub-account, summary/ list of transactions per year, REC shortfall computed by deducting RECs in the retirement account from the determined RPS Compliance Level. The statement is to be issued on a frequency that is configurable.	M	5.3.2
The system should allow the regeneration of the Preliminary and Final Statements based on corrected values that are auditable.	M	5.3.3
The system should allow the RE Registrar user to set the duration of the RPS Compliance period and the frequency of the issuance of the Preliminary and Final Statements.	S	5.3.4
The system should enable the Market Participants to access through the website the Preliminary and Final Statements.	M	5.3.5
The system should be able to generate an REC Report (duration can be configured by the user) for all of the RE Market Participants that would contain at least the following: RPS Compliance level, total volume of RECs generated, and the total shortfall or excess in RECs.	M	5.3.6
Manage Disputes		
The system should allow the RE Registrar user to encode case details of the dispute and correspondingly allow to provide status on the mediation process.	W	5.4.1
The Market Participants that are parties to the dispute should be able to access through the website the status/ resolution of the disputes.	W	5.4.2
The RE Registrar user should be able to generate summary reports on the key details and status of the disputes.	W	5.4.3

Module 6: Data Publication and Reporting

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
Data Publication and Reporting		6
Website		6.1
The system should be accessible through log-in or sign-in by the registered participants, RER Users including users from DOE (other regulatory bodies) with configurable access to the modules/ functionalities of the PREMS	M	6.1
The Website should require access credentials by the registered participants, RER Users	M	6.1
The Website should require access credentials by the users from DOE (other regulatory bodies)	S	6.1
The Website should require access credentials including username, password authenticated through Active Directory;	M	6.1
The Website should allow resetting of the password.		6.1
The Website should allow re-direction to the page containing its own data and reports		6.1
Participant data and reports		6.2
The system should allow filtering and sorting of fields related to the account balances.	S	6.2.1
Allow the viewing of transactions for a specified period of time, with a specific trading participant	M	6.2.2
Allow filtering of transactions according to transfer, banking, and retirement	S	6.2.2
Allow downloading and printing of preliminary and final statements, and bill for the transaction fees.	M	6.2.2
The system should allow each registered user to determine the compliance forecast based on the following input values: demand growth, incremental RPS percentage, net electricity sales	C	6.2.3
The system should provide list of RECs and expiry dates.	M	6.2.4
The system should allow sorting of RECs based on expiry dates.	M	
The system should allow pop-up and email notifications for expiring RECs within a certain period of time.	M	
The system should allow the registered participant to view contracts entered into for standing orders consistent with the REM Rules Clause 3.2.1.	M	6.2.5
Registrar data and reports		6.3
The system should Allow access only to the RER and selected user accounts	M	6.3.1
The system should allow the RE Registrar to determine compliance forecast based on the following input values: demand growth, incremental RPS percentage, net electricity sales.	C	6.3.2
Issue allocation reports		6.4
Extract transaction data from Allocate RECs module	M	6.4
The system should allow the extraction of transaction data from the allocate RECs module		
Report generation	M	6.4
The system shall allow creation of reports aggregating transactions on the Certificates including RECs that were transferred, banked and retired for a certain period of time.		
Public data and reports		6.5
The system shall facilitate the publication of reports, documents and other pertinent information including the aggregate data of the transactions of the registered participants.	M	6.5
The Website should allow downloading in CSV, PDF, and picture formats of reports, documents and other pertinent information including the aggregate data of the transactions of the registered participants.	M	6.5
The Website should allow filtering and sorting of fields of the datasets.	M	6.5

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
The Website should allow the moderated (by RER) posting by the Trading Participants in the bulletin board of RECs for buying and selling (with the following fields: price, quantity, vintage and technology type).	M	6.5
The Website should allow for lodging inquiries and the RE Registrar to provide announcements and advisories.	M	6.5

Module 7: Data Interfaces

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
Data Interfaces		7
Automatic import		7.1
Interface with NMMS, CRSS, EMDRP and other data sources 1. The system must have facility for System Administrator to specify connection credentials for External Databases and Data Sources 2. Must have facility to import from flat files (CSV, XLS etc.)	M	7.1
GUI to set automated import schedule settings The system must have facility for System Administrator to add, delete, edit, automated importing jobs. The system must have facility for System Administrator to set schedule, frequency, start and end date/time of automated data importing jobs. The system must have facility for System Administrator to suspend / resume automated data importing jobs. The system must have facility for System Administrator to specify data source, table name, column for any automated import job	M	7.1
Data overriding / manual import		7.2
Interface with NMMS, CRSS, EMDRP and other data sources The system must have facility for System Administrator to specify connection credentials for External Databases and Data Sources The system must have facility to import from flat files (CSV, XLS etc.)	M	7.2
GUI for manual import settings The system must have facility for System Administrator to specify data source, table name, column for manual importing The system must have facility for System Administrator to rollback or overwrite automatically imported data	M	7.2
Manual import of submitted datasets for off-grid, net-metered generators and TrasCo FiT All data The system should allow for the uploading of submitted datasets for off-grid, net-metered generators and TrasCo FiT allocation payment. The fields will be defined for each dataset.	M	7.2
Monitoring of import process		7.3
Progress reporting for import jobs The system must have facility to display the progress status of importing data preferably with percentage values. The system must notify the System Administrator through a pop-up notification and/or e-mail on whether an import task is successful, failed (also the reason of the failure) and whether the import was automatically or manually performed. Including the date and time stamp of when started and finished.	M	7.3
Maintenance of an audit trail There must be a corresponding audit trail of import process logs maintained whether in flat files or a database.	M	7.3

Non-functional Requirements

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
Non-functional Requirements		N
Assurance and Security		N.1
Software Assurance and Security		N.1
The system shall comply with the WESM Rules, including the REM Rules	M	N.1.1
The development of the software as well as the software security features shall comply with relevant controls of ISO27002 section 12.2: Correct processing in applications.	M	N.1.1
Software and data vulnerability controls shall be in place to prevent all methods of exploitation, destruction, compromising access and data exposure. The system shall use TLS/SSL technology to encrypt communications between the user and the web application server. Web application shall use HTTPS.	M	N.1.1
Data confidentiality shall be addressed at collection, transport, and storage in PEMC's data center. Data shall be fully encrypted to prevent unauthorized access. Strongly encrypt critical data at storage. A hash plus salt shall be implemented, or any stronger encryption mechanism.	M	N.1.2
User and access credentials (i.e. passwords, passphrases, user account keys, etc.) shall be stored, retrieved, updated and removed using the LDAPS technology. User and system access credentials shall be kept at the back-end and encrypted.	M	N.1.2
Establish an in-depth software and data vulnerability management and patching activities during development of the system. Identify existing risks and eliminate moderate to critical vulnerabilities. The Contractor shall conduct research of vulnerabilities of software used in the system, including third party products. Patching of all known software flaws and weaknesses shall be prioritized. Virtual patching shall be performed for those software applications that are exposed to public networks specifically web applications that must be protected in between patch deployments.	M	N.1.2
The system shall allow read access to all data to users associated with: - The RER - the REM Auditor - the DOE - the ERC and shall not allow any other user to view data not pertaining to the registration with which they are associated.	M	N.1.2
The system shall maintain referential integrity when linked entities are changed	M	N.1.3
The system shall maintain referential integrity when effective dates are changed.	M	N.1.3
If an attempted change to a link or an effective date or an expiry date would result in a breach of referential integrity, the system shall not allow the change, and shall notify the user of the specific entities which would be affected.	M	N.1.3
The vendor shall provide security and performance test tools, for use in testing to be accomplished jointly by PEMC and the vendor	S	N.1.3
To ensure that the software system is performing as intended, the Contractor shall implement a mechanism or use a tool during development where codes and data are protected from unauthorized access. Make sure that codes and data are not tampered by persons not involved in the project. Similarly, the mechanism shall ensure no malicious codes or data are injected by persons that are performing code revisions. Further, software codes that are not designed for the system shall be prevented from being introduced into the new software.	M	N.1.3
The Contractor shall ensure a change control is in place within their development teams so no unintended changes are applied to impact the integrity of data. Development and operations teams shall create secure foundations for access to all software applications and data. The Contractor shall deploy a system that can be easily checked for completeness of data and defective configuration changes.	M	N.1.3
The Contractor shall implement a scheme during the development of the software that shall minimize, if not eliminate, vulnerabilities and flaws caused by third party software along the value chain. The Contractor shall select the most secure and stable versions of software components that is put together into the system. The Contractor shall conduct assessment and avoid software components having known vulnerabilities and flaws, including those products that are about to be obsolete and will have issues regarding compatibility. The Contractor shall replace software components right after discovery of its flaws and there are no remediation available.	M	N.1.3
The Contractor shall conduct thorough security and functionality testing at the factory prior to shipment to Quality Assurance and End-User Testing. To ensure integrity of the source code the Contractor shall perform unit and integration tests to cover almost	M	N.1.3

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
all source codes of the system. Thereafter, PEMC shall measure integrity of the code ensured by the Contractor at the factory. Code integrity is defined as 1 – (defects found in QA/user acceptance divided by total number of defects) where the value shall be greater than 0.9. Anywhere during acceptance testing if the value falls below 0.9, PEMC shall immediately return the product to the DEVELOPER for factory testing.		
The system shall use a shared PEMC LDAP server for user management and authentication.	M	N.1.4
The system shall use the shared PEMC LDAP server to manage and allocate user roles for authorisation	M	N.1.4
The system shall incorporate non-repudiation mechanisms to ensure data changes are undeniably linked to user accounts.	M	N.1.5
The system shall archive data older than a configurable age to the PEMC data warehouse	M	N.1.5
When a user or system process creates or updates any data value, the system shall record the user ID, the data item changed, the previous value and the timestamp,	M	N.1.5
The system must have logs for traceability of system events.	M	N.1.5
The system must have an audit trail that records all user actions.	M	N.1.5
The system shall have a central dashboard or page to monitor all real-time information;	M	N.1.5
The system shall have recording of logs for each transaction activity to indicate successes, warnings and errors as well as number of records updated, inserted, deleted, etc. It should also record the start time and end time of each transaction made.	M	N.1.5
Efficiency and Performance		N.2
The system shall be able to hold at least 90 days of data in primary online storage, including audit data	M	N.2.1
The system shall be able to hold at least 13 additional months of data in secondary online storage, including audit data, for a total of 16 months online storage	M	N.2.1
On day 1, the system shall support XXX user accounts total	M	N.2.1
On day 1, the system shall support access for XXX user accounts concurrently	M	N.2.1
On day 1, the system shall be able to process registration of XXX participants and YYY facilities	M	N.2.1
On day 1, the system shall be able to process XXX registration updates per year	M	N.2.1
On day 1, the system shall be able to process XXX transfer requests within 1 month	M	N.2.1
On day 1, the system shall be able to, once a year, process XXX mandated entities for compliance	M	N.2.1
A single function of the system shall be able to process the largest possible size of transactional input, temporary and control data relative to the application. Size is measured in (KB) KiloBytes and determined during design of the function.	M	N.2.1
The system shall be able to perform batch and interactive processing at the same time. The system shall be capable to perform simultaneous processing of the same or different functions using the same or varied input data. The system shall be able to implement multi-threading, concurrent, parallel and distributed processing in order to perform simultaneous processes	M	N.2.1
The system shall be able to process _____ interactive transactions per day and _____ batch transactions per day. The system shall be able to retrieve, manipulate and store at least _____ months of data on-line	M	N.2.1
Interactive functions are defined as human to machine processes. The system shall be able to respond back to the human user within 3 seconds after a successful data input. Any errors shall be displayed to the user within 10 seconds.	M	N.2.2
Processes shall have error trapping and handling capabilities in order to recover from critical and severe faults within 10 seconds after detection.	M	N.2.2
Batch processing shall not exceed 10 minutes for small amount of input data and 1 hour for large amount of input data.	M	N.2.2
No single or a number of processes shall stall the entire system for more than 5 minutes due to large data being processed, erratic processing and/or bad programming.	M	N.2.2
After 5 years, the system shall support access for XXX user accounts concurrently	S	N.2.3

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
After 5 years, the system shall be able to process registration of XXX participants and YYY facilities	S	N.2.3
After 5 years, the system shall be able to process XXX registration updates per year	S	N.2.3
After 5 years, the system shall be able to process XXX transfer requests within 1 month	S	N.2.3
After 5 years, the system shall be able to, once a year, process XXX mandated entities for compliance	S	N.2.3
Software codes and functional components of the system shall be structured in an organized manner. Common components can be shared and reused so as adding, removing and enhancing a function or feature can be easily done without any major recoding work. The scalability scheme shall be completely described in the design document	M	N.2.3
Increase in data input and processing can be achieved by running additional simultaneous of similar or different processes using several processors and computer resources in a distributed configuration without the need for major recoding or rework.	M	N.2.3
Integration of processes and other external software systems shall be seamless. Transfer of processing between computer programs shall not be delayed. Typical handshakes shall employ database to database connectivity and/or event-driven triggers.	M	N.2.4
Except for the base, core and/or business logic software components, other functional components (e.g. UI) of the software can be easily replaced by other components or third party products without the need for major rework and reprogramming.	M	N.2.4
Contractor shall provide network equipment for the PREMS and shall provide a design that will be compatible and address network constraints to meet the required system response time that will be set by PEMC during the project design stage and will be concurred by the Contractor.	M	N.2.5
The system shall have an annual availability of 99.5% , measured on a 24x7 basis.	M	N.2.6
System availability requirements do not vary by time of day.	M	N.2.6
The system shall have a maximum tolerable downtime of XXX hours	M	N.2.6
The system shall be able to be supported by one full time equivalent internal support staff.	M	N.2.6
The system shall be provided with a 1 year maintenance agreement for any off-the-shelf software components.	S	N.2.6
The system shall be provided with a 3 month warranty period for any custom or modified software components	S	N.2.6
The system can work in a cluster of processors. Every software component shall be cluster-aware.	S	N.2.6
Critical components of the software shall have the capability to monitor all available processors and transfer processing to the next available processor in case of processing errors or computer hardware failure. The transfer process shall be seamless and shall have minimal or no impact to other running processes or user transactions	S	N.2.6
Data shall be replicated to several processors and storage hardware in real-time so that minimal or no data loss shall be encountered during processing errors. This replication shall be fully automated and can easily be monitored and resolved in case of malfunction.	S	N.2.6
The software that will be developed by the Contractor shall be running and available for functional processing 99.9% of the time.	S	N.2.6
The system shall separate UI response from processing tasks, so that the interface is still responsive to user interaction while background processing occurs.	M	N.2.7
The system shall allow users to monitor the progress of processing tasks by viewing a real-time progress report.	M	N.2.7
The system shall alert users to the completion of processing tasks by automatic notification.	M	N.2.7
The system graphical user interface must support access via the internet	M	N.2.7
All graphical user interfaces must be accessible using the latest version of: Google Chrome	M	N.2.7

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
Mozilla Firefox		
All graphical user interfaces must be accessible using the latest version of: Microsoft Edge Apple Safari Microsoft Internet Explorer	S	N.2.7
When a user is accessing a graphical user interface from the PEMC LAN, the system shall respond to user interaction almost instantaneously.	M	N.2.7
Upload or download of data or graphical user interface web pages containing less than 1MB of data shall load within 3 seconds	M	N.2.7
Upload and download times for larger amounts of data should scale roughly linearly, not exponentially.	S	N.2.7
Management		N.3
The system shall provide context sensitive online help to users.	M	N.3
The system shall be supplied with a solution specification description document containing: 1. Functional specifications 2. Design specifications 3. Proposed Configuration Settings 4. Requirements vs. design features matrix 5. Requirements vs. test scripts matrix	M	N.3
The vendor shall supply an operational administration manual for the system	M	N.3
The vendor shall supply a user manual for the system	M	N.3
The vendor shall supply a training manual for the system	M	N.3
The vendor shall supply an as-built document for the system including: 1. Actual configuration settings 2. Known issues	M	N.3
The vendor shall supply a disaster recovery plan for the system	M	N.3
The vendor shall supply an interface specification document for each external programmatic system interface	M	N.3
Prior to the start of development, the vendor shall supply an overall Quality Plan covering all phases of system delivery	M	N.3
Prior to the start of development, the vendor shall supply an overall Test Plan covering all phases of testing	M	N.3
The vendor shall supply an updated Quality plan prior to entry of each delivery phase	M	N.3
The vendor shall supply an updated Test plan prior to entry of each test phase	M	N.3
The vendor shall supply test cases, test scripts and test result reports for unit, integration and system testing, to be carried out by the vendor	M	N.3
The vendor shall supply test cases and test scripts for user acceptance testing, to be carried out by PEMC	M	N.3
The system should have performance and workload dashboards	M	N.3
The system should have query metrics repository for tuning analysis, resource accounting	M	N.3
Management of system should not be dependent on availability of any particular server or processor to be accessible and usable in the system. Management / administration interfaces should continue in the event of any malfunction	M	N.3
Training and Awareness		N.4
The vendor shall provide training for 15 users composed of operators, application administrators and governance bodies	M	N.4
The vendor shall provide training for PEMC trainers who will then provide training to market participants	M	N.4
The vendor shall provide training for market governance users	M	N.4
The vendor shall provide training materials for all training.	M	N.4
Environments		N.5
The system shall be developed on the vendor site, in vendor supplied development environments.	M	N.5.1
The system shall use MS SQL Server, Oracle or PostgreSQL. If other RDBMS is proposed, they should be pre-approved by UNDP and PEMC	S	N.5.1
The system shall allow REC transfers to be lodged and accepted via a programmatic interface	C	N.5.2

Requirement	MoSCoW classification	Functional Hierarchy Reference Map
The programmatic interface must support access via the internet	C	N.5.2
Programmatic interfaces shall be designed with SOA principles in mind, particularly encapsulation, so that external systems need only understand the interface specification to communicate with the registry system.	M	N.5.2

Section 6: Returnable Bidding Forms / Checklist

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

Before submitting your Proposal, please ensure compliance with the Proposal Submission instructions of the BDS 22.

Technical Proposal Envelope:

Have you duly completed all the Returnable Bidding Forms?

- | | |
|------------------------------------------------------------------|--------------------------|
| ■ Form A: Technical Proposal Submission Form | <input type="checkbox"/> |
| ■ Form B: Bidder Information Form | <input type="checkbox"/> |
| ■ Form C: Joint Venture/Consortium/ Association Information Form | <input type="checkbox"/> |
| ■ Form D: Qualification Form | <input type="checkbox"/> |
| ■ Form E: Format of Technical Proposal | <input type="checkbox"/> |
| ■ Form H: Proposal Security Form | <input type="checkbox"/> |

Have you provided the required documents to establish compliance with the evaluation criteria in Section 4?

☐

Financial Proposal Envelope

(Must be submitted in a separate sealed envelope/password protected email)

- | | |
|----------------------------------------------|--------------------------|
| ■ Form F: Financial Proposal Submission Form | <input type="checkbox"/> |
| ■ Form G: Financial Proposal Form | <input type="checkbox"/> |

Form A: Technical Proposal Submission Form

Name of Bidder: [Insert Name of Bidder]

Date:

RFP reference: [Insert RFP Reference Number]

We, the undersigned, offer to provide the services for [Insert Title of services] in accordance with your Request for Proposal No. [Insert RFP Reference Number] and our Proposal. We are hereby submitting our Proposal, which includes this Technical Proposal and our Financial Proposal sealed under a separate envelope.

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

- a) is not under procurement prohibition by the United Nations, including but not limited to prohibitions derived from the Compendium of United Nations Security Council Sanctions Lists;
- b) have not been suspended, debarred, sanctioned or otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization;
- c) have no conflict of interest in accordance with Instruction to Bidders Clause 4;
- d) do not employ, or anticipate employing, any person(s) who is, or has been a UN staff member within the last year, if said UN staff member has or had prior professional dealings with our firm in his/her capacity as UN staff member within the last three years of service with the UN (in accordance with UN post-employment restrictions published in ST/SGB/2006/15);
- e) have not declared bankruptcy, are not involved in bankruptcy or receivership proceedings, and there is no judgment or pending legal action against them that could impair their operations in the foreseeable future;
- f) undertake not to engage in proscribed practices, including but not limited to corruption, fraud, coercion, collusion, obstruction, or any other unethical practice, with the UN or any other party, and to conduct business in a manner that averts any financial, operational, reputational or other undue risk to the UN and we embrace the principles of the United Nations Supplier Code of Conduct and adhere to the principles of the United Nations Global Compact.

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

We offer to provide services in conformity with the Bidding documents, including the UNDP General Conditions of Contract and in accordance with the Terms of Reference

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

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

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

Name: _____

Title: _____

Date: _____

Signature: _____

[Stamp with official stamp of the Bidder]

Form B: Bidder Information Form

Legal name of Bidder	[Complete]
Legal address	[Complete]
Year of registration	[Complete]
Bidder's Authorized Representative Information	Name and Title: [Complete] Telephone numbers: [Complete] Email: [Complete]
Are you a UNGM registered vendor?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, [insert UGNM vendor number]
Are you a UNDP vendor?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, [insert UNDP vendor number]
Countries of operation	[Complete]
No. of full-time employees	[Complete]
Quality Assurance Certification (e.g. ISO 9000 or Equivalent) (If yes, provide a Copy of the valid Certificate):	[Complete]
Does your Company hold any accreditation such as ISO 14001 related to the environment? (If yes, provide a Copy of the valid Certificate):	[Complete]
Does your Company have a written Statement of its Environmental Policy? (If yes, provide a Copy)	[Complete]
Contact person UNDP may contact for requests for clarification during Proposal evaluation	Name and Title: [Complete] Telephone numbers: [Complete] Email: [Complete]
Please attach the following documents:	<ul style="list-style-type: none"> ▪ Company Profile, which should <u>not</u> exceed fifteen (15) pages, including printed brochures and product catalogues relevant to the goods/services being procured ▪ Certificate of Incorporation/ Business Registration ▪ Tax Registration/Payment Certificate issued by the Internal Revenue Authority evidencing that the Bidder is updated with its tax payment obligations, or Certificate of Tax exemption, if any such privilege is enjoyed by the Bidder ▪ Trade name registration papers, if applicable ▪ 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 in behalf of an entity located outside the country ▪ Power of Attorney

Form C: Joint Venture/Consortium/Association Information Form

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

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

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

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

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

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

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

Name of partner: _____	Name of partner: _____
Signature: _____	Signature: _____
Date: _____	Date: _____
 Name of partner: _____	 Name of partner: _____
 Signature: _____	 Signature: _____
 Date: _____	 Date: _____

Form D: Qualification Form

Name of Bidder: [Insert Name of Bidder]

Date: [Select date]

RFP reference: [Insert RFP Reference Number]

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

Historical Contract Non-Performance

- ☐ Contract non-performance did not occur for the last 3 years
- ☐ Contract(s) not performed for the last 3 years

Year	Non- performed portion of contract	Contract Identification	Total Contract Amount (current value in US\$)
------	------------------------------------------	-------------------------	--------------------------------------------------

Name of Client:

Address of Client:

Reason(s) for non-performance:

Litigation History (including pending litigation)

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

Year of dispute	Amount in dispute (in US\$)	Contract Identification	Total Contract Amount (current value in US\$)
--------------------	--------------------------------	-------------------------	--------------------------------------------------

Name of Client:

Address of Client:

Matter in dispute:

Party who initiated the dispute:

Status of dispute:

Party awarded if resolved:

Previous Relevant Experience

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

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

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

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

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

Financial Standing

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

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

Current Ratio

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

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

Form E: Format of Technical Proposal

Note to UNDP [MUST BE DELETED BEFORE POSTING]:

Please ensure that the information below is adapted in accordance with the technical evaluation criteria included in Section 4. The below sections correspond to the sample criteria included in this template RFP in Section 4]

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

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

SECTION 2 : Bidder's qualification, capacity and expertise

- 1.1 Brief description of the organization, including the year and country of incorporation, and types of activities undertaken.
- 1.2 General organizational capability which is likely to affect implementation: management structure, financial stability and project financing capacity, project management controls, extent to which any work would be subcontracted (if so, provide details).
- 1.3 Relevance of specialized knowledge and experience on similar engagements done in the region/country.
- 1.4 Quality assurance procedures and risk mitigation measures.
- 1.5 Organization's commitment to sustainability.

SECTION 2: Proposed Methodology, Approach and Implementation Plan

This section should demonstrate the bidder's responsiveness to the TOR by identifying the specific components proposed, addressing the requirements, providing a detailed description of the essential performance characteristics proposed and demonstrating how the proposed approach and methodology meets or exceeds the requirements. All important aspects should be addressed in sufficient detail and different components of the project should be adequately weighted relative to one another.

- 2.1 A detailed description of the approach and methodology for how the Bidder will achieve the Terms of Reference of the project, keeping in mind the appropriateness to local conditions and project environment. Details how the different service elements shall be organized, controlled and delivered.
- 2.2 The methodology shall also include details of the Bidder's internal technical and quality assurance review mechanisms.
- 2.3 Explain whether any work would be subcontracted, to whom, how much percentage of the work, the rationale for such, and the roles of the proposed sub-contractors and how everyone will function as a team.
- 2.4 Description of available performance monitoring and evaluation mechanisms and tools; how they shall be adopted and used for a specific requirement.

- 2.5 Implementation plan including a Gantt Chart or Project Schedule indicating the detailed sequence of activities that will be undertaken and their corresponding timing.
- 2.6 Demonstrate how you plan to integrate sustainability measures in the execution of the contract.
- 2.7 Any other comments or information regarding the project approach and methodology that will be adopted.

SECTION 2A: Bidder's Comments and Suggestions on the Terms of Reference

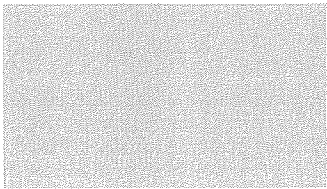
Provide comments and suggestions on the Terms of Reference, or additional services that will be rendered beyond the requirements of the TOR, if any.

SECTION 3: Management Structure and Key Personnel

- 3.1 Describe the overall management approach toward planning and implementing the project. Include an organization chart for the management of the project describing the relationship of key positions and designations. Provide a spreadsheet to show the activities of each personnel and the time allocated for his/her involvement
- 3.2 Provide CVs for key personnel that will be provided to support the implementation of this project using the format below. CVs should demonstrate qualifications in areas relevant to the Scope of Services.

Format for CV of Proposed Key Personnel

Name of Personnel	[Insert]
Position for this assignment	[Insert]
Nationality	[Insert]
Language proficiency	[Insert]
Education/Qualifications	<p><i>[Summarize college/university and other specialized education of personnel member, giving names of schools, dates attended, and degrees/qualifications obtained.]</i></p> <p>[Insert]</p>
Professional certifications	<p><i>[Provide details of professional certifications relevant to the scope of services]</i></p> <ul style="list-style-type: none"> ▪ Name of institution: [Insert] ▪ Date of certification: [Insert]
Employment Record/Experience	<p><i>[List all positions held by personnel (starting with present position, list in reverse order), giving dates, names of employing organization, title of position held and location of employment. For experience in last five years, detail the type of activities performed, degree of responsibilities, location of assignments and any other information or professional experience considered pertinent for this assignment.]</i></p> <p>[Insert]</p>
References	<p><i>[Provide names, addresses, phone and email contact information for two (2) references]</i></p>



Reference 1:

[Insert]

Reference 2:

[Insert]

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

Signature of Personnel

Date (Day/Month/Year)

Form F: Financial Proposal Submission Form

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

We, the undersigned, offer to provide the services for [Insert Title of services] in accordance with your Request for Proposal No. [Insert RFP Reference Number] and our Proposal. We are hereby submitting our Proposal, which includes this Technical Proposal and our Financial Proposal sealed under a separate envelope.

Our attached Financial Proposal is for the sum of [Insert amount in words and figures].

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

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

Name: _____

Title: _____

Date: _____

Signature: _____

[Stamp with official stamp of the Bidder]

Form G: Financial Proposal Form

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

The Bidder is required to prepare the Financial Proposal following the below format and submit it in an envelope separate from the Technical Proposal as indicated in the Instruction to Bidders. Any Financial information provided in the Technical Proposal shall lead to Bidder's disqualification.

The Financial Proposal should align with the requirements in the Terms of Reference and the Bidder's Technical Proposal.

Currency of the proposal: [Insert Currency]

Table 1: Summary of Overall Prices

	Amount(s)
Professional Fees (from Table 2)	
Other Costs (from Table 3)	
Total Amount of Financial Proposal	

Table 2: Breakdown of Professional Fees

Name	Position	Fee Rate	No. of Days/months/ hours	Total Amount
		A	B	C=A+B
In-Country				
Home Based				
Subtotal Professional Fees:				

Table 3: Breakdown of Other Costs

Description	UOM	Quantity	Unit Price	Total Amount
International flights	Trip			

Subsistence allowance	Day			
Miscellaneous travel expenses	Trip			
Local transportation costs	Lump Sum			
Out-of-Pocket Expenses				
Other Costs: (please specify)				
		Subtotal Other Costs:		

Table 4: Breakdown of Price per Deliverable/Activity

Deliverable/ Activity description	Time (person days)	Professional Fees	Other Costs	Total
Deliverable 1				
Deliverable 2				
Deliverable 3				
.....				

Form H: Form of Proposal Security

**Proposal Security must be issued using the official letterhead of the Issuing Bank.
Except for indicated fields, no changes may be made on this template.**

To: UNDP

[Insert contact information as provided in Data Sheet]

WHEREAS [Name and address of Bidder] (hereinafter called "the Bidder") has submitted a Proposal to UNDP dated [Click here to enter a date](#) to execute Services [Insert Title of Services] (hereinafter called "the Proposal"):

AND WHEREAS it has been stipulated by you that the Bidder shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security in the event that the Bidder:

- a) Fails to sign the Contract after UNDP has awarded it;
- b) Withdraws its Proposal after the date of the opening of the Proposals;
- c) Fails to comply with UNDP's variation of requirement, as per RFP instructions; or
- d) Fails to furnish Performance Security, insurances, or other documents that UNDP may require as a condition to rendering the contract effective.

AND WHEREAS we have agreed to give the Bidder such this Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Bidder, up to a total of [amount of guarantee] [in words and numbers], such sum being payable in the types and proportions of currencies in which the Price Proposal is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of [amount of guarantee as aforesaid] without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

This guarantee shall be valid up to 30 days after the final date of validity of bids.

SIGNATURE AND SEAL OF THE GUARANTOR BANK

Signature: _____

Name: _____

Title: _____

Date: _____

Name of Bank _____

Address _____

[Stamp with official stamp of the Bank]

FORM I: Certificate of Warranty

CERTIFICATE OF WARRANTY TO COVER WARRANTY OF GOODS SUPPLIED TO THE DEPARTMENT OF ENERGY OF THE GOVERNMENT OF THE PHILIPPINES

(This must be finalized using the official letterhead of the Issuing Bank. Except for indicated fields, no changes may be made in this template.)

To: _____

Government of the Philippines

[Insert contact information as provided in Data Sheet]

WHEREAS *[name and address of Supplier]* (hereinafter called “the Supplier”) has undertaken, in pursuance of Purchase Order No. [Click here to enter text.](#) dated [Click here to enter a date.](#) , for the Procurement of _____ according to the requirements in RFP ref. PHL-RFP-2018-036 (hereinafter called “the Purchase Order”):

AND WHEREAS it has been stipulated by UNDP in the said Purchase Order that the Supplier shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as Certificate of Warranty, for compliance with his obligations during the warranty period in accordance with the Purchase Order:

AND WHEREAS we have agreed to give the Supplier such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Supplier, up to a total of *[amount of guarantee]* *[in words and numbers]*, such sum being payable in the types and proportions corresponding to the actual cost of the repair of the damages not serviced by the Supplier, but were established and confirmed in writing the the Supplier, or its local representative, as having been caused by factory defects, and not arising from improper use, misuse, regular wear-and-tear, or other causes outside of the warranty coverage, in Philippine Pesos currency, and we undertake to pay you, upon your first written demand and without cavil or argument, and upon presentation of Official Receipt bearing the full cost of the repair services undertaken by a **third party**,

any sum or sums within the limits of *[amount of guarantee as aforesaid]* without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.”

This guarantee shall be valid for a period of sixty (60) months from the date of issue by UNDP of a Certificate of Completion of Delivery of Goods.

The value of this Bank Guarantee diminishes by the following amounts, as the herein indicated dates occurs :

<u>Value</u>	<u>Effective Date</u>
Year 1 :	12 months from the acceptance of the end-user
Year 2 :	12 months from the date of previous reduction in value
Year 3 :	12 months from the date of last reduction in value

SIGNATURE AND SEAL OF THE GUARANTOR BANK

Date

Name of Bank

Address