



NATIONAL ELECTRIFICATION ADMINISTRATION

Procurement for the Supply, Delivery, Installation, Testing, and Commissioning of Nine Thousand Eight Hundred Twenty-Two (9,822) Units of Solar Home System for Siargao Electric Cooperative, Inc. (SIARELCO), Dinagat Island Electric Cooperative, Inc. (DIELCO), Siasi Electric Cooperative, Inc. (SIASELCO), Busuanga Island Electric Cooperative, Inc. (BISELCO), Eastern Samar Electric Cooperative, Inc. (ESAMELCO), Cotabato Electric Cooperative, Inc. – PPALMA (COTELCO-PPALMA), Basilan Electric Cooperative, Inc. (BASELCO), and Maguindanao Electric Cooperative, Inc. (MAGELCO) Franchise Areas

NEA-PB No. 2025-07

Preface

These Philippine Bidding Documents (PBDs) for the procurement of Goods through Competitive Bidding have been prepared by the Government of the Philippines for use by any branch, constitutional commission or office, agency, department, bureau, office, or instrumentality of the Government of the Philippines, National Government Agencies, including Government-Owned and/or Controlled Corporations, Government Financing Institutions, State Universities and Colleges, and Local Government Unit. The procedures and practices presented in this document have been developed through broad experience, and are for mandatory use in projects that are financed in whole or in part by the Government of the Philippines or any foreign government/foreign or international financing institution in accordance with the provisions of the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184.

The Bidding Documents shall clearly and adequately define, among others: (i) the objectives, scope, and expected outputs and/or results of the proposed contract or Framework Agreement, as the case may be; (ii) the eligibility requirements of Bidders; (iii) the expected contract or Framework Agreement duration, the estimated quantity in the case of procurement of goods, delivery schedule and/or time frame; and (iv) the obligations, duties, and/or functions of the winning bidder.

Care should be taken to check the relevance of the provisions of the PBDs against the requirements of the specific Goods to be procured. If duplication of a subject is inevitable in other sections of the document prepared by the Procuring Entity, care must be exercised to avoid contradictions between clauses dealing with the same matter.

Moreover, each section is prepared with notes intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They shall not be included in the final documents. The following general directions should be observed when using the documents:

- a. All the documents listed in the Table of Contents are normally required for the procurement of Goods. However, they should be adapted as necessary to the circumstances of the particular Procurement Project.
- b. Specific details, such as the “*name of the Procuring Entity*” and “*address for bid submission*,” should be furnished in the Instructions to Bidders, Bid Data Sheet, and Special Conditions of Contract. The final documents should contain neither blank spaces nor options.
- c. This Preface and the footnotes or notes in italics included in the Invitation to Bid, Bid Data Sheet, General Conditions of Contract, Special Conditions of Contract, Schedule of Requirements, and Specifications are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow.

- d. The cover should be modified as required to identify the Bidding Documents as to the Procurement Project, Project Identification Number, and Procuring Entity, in addition to the date of issue.
- e. Modifications for specific Procurement Project details should be provided in the Special Conditions of Contract as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the Bid Data Sheet or Special Conditions of Contract, these terms shall be printed in bold typeface on Sections I (Instructions to Bidders) and III (General Conditions of Contract), respectively.
- f. For guidelines on the use of Bidding Forms and the procurement of Foreign-Assisted Projects, these will be covered by a separate issuance of the Government Procurement Policy Board.

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Glossary of Acronyms, Terms, and Abbreviations

ABC – Approved Budget for the Contract.

BAC – Bids and Awards Committee.

Bid – A signed offer or proposal to undertake a contract submitted by a bidder in response to and in consonance with the requirements of the bidding documents. Also referred to as *Proposal* and *Tender*. (2016 revised IRR, Section 5[c])

Bidder – Refers to a contractor, manufacturer, supplier, distributor and/or consultant who submits a bid in response to the requirements of the Bidding Documents. (2016 revised IRR, Section 5[d])

Bidding Documents – The documents issued by the Procuring Entity as the bases for bids, furnishing all information necessary for a prospective bidder to prepare a bid for the Goods, Infrastructure Projects, and/or Consulting Services required by the Procuring Entity. (2016 revised IRR, Section 5[e])

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

Consulting Services – Refer to services for Infrastructure Projects and other types of projects or activities of the GOP requiring adequate external technical and professional expertise that are beyond the capability and/or capacity of the GOP to undertake such as, but not limited to: (i) advisory and review services; (ii) pre-investment or feasibility studies; (iii) design; (iv) construction supervision; (v) management and related services; and (vi) other technical services or special studies. (2016 revised IRR, Section 5[i])

CDA - Cooperative Development Authority.

Contract – Refers to the agreement entered into between the Procuring Entity and the Supplier or Manufacturer or Distributor or Service Provider for procurement of Goods and Services; Contractor for Procurement of Infrastructure Projects; or Consultant or Consulting Firm for Procurement of Consulting Services; as the case may be, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

CIF – Cost Insurance and Freight.

CIP – Carriage and Insurance Paid.

CPI – Consumer Price Index.

DDP – Refers to the quoted price of the Goods, which means “delivered duty paid.”

DTI – Department of Trade and Industry.

EXW – Ex works.

FCA – “Free Carrier” shipping point.

FOB – “Free on Board” shipping point.

Foreign-funded Procurement or Foreign-Assisted Project– Refers to procurement whose funding source is from a foreign government, foreign or international financing institution as specified in the Treaty or International or Executive Agreement. (2016 revised IRR, Section 5[b]).

Framework Agreement – Refers to a written agreement between a procuring entity and a supplier or service provider that identifies the terms and conditions, under which specific purchases, otherwise known as “Call-Offs,” are made for the duration of the agreement. It is in the nature of an option contract between the procuring entity and the bidder(s) granting the procuring entity the option to either place an order for any of the goods or services identified in the Framework Agreement List or not buy at all, within a minimum period of one (1) year to a maximum period of three (3) years. (GPPB Resolution No. 27-2019)

GFI – Government Financial Institution.

GOCC – Government-owned and/or –controlled corporation.

Goods – Refer to all items, supplies, materials and general support services, except Consulting Services and Infrastructure Projects, which may be needed in the transaction of public businesses or in the pursuit of any government undertaking, project or activity, whether in the nature of equipment, furniture, stationery, materials for construction, or personal property of any kind, including non-personal or contractual services such as the repair and maintenance of equipment and furniture, as well as trucking, hauling, janitorial, security, and related or analogous services, as well as procurement of materials and supplies provided by the Procuring Entity for such services. The term “related” or “analogous services” shall include, but is not limited to, lease or purchase of office space, media advertisements, health maintenance services, and other services essential to the operation of the Procuring Entity. (2016 revised IRR, Section 5[r])

GOP – Government of the Philippines.

GPPB – Government Procurement Policy Board.

INCOTERMS – International Commercial Terms.

Infrastructure Projects – Include the construction, improvement, rehabilitation, demolition, repair, restoration or maintenance of roads and bridges, railways, airports, seaports, communication facilities, civil works components of information technology projects, irrigation, flood control and drainage, water supply, sanitation, sewerage and solid waste management systems, shore protection, energy/power and electrification facilities, national

buildings, school buildings, hospital buildings, and other related construction projects of the government. Also referred to as *civil works or works*. (2016 revised IRR, Section 5[u])

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PhilGEPS - Philippine Government Electronic Procurement System.

Procurement Project – refers to a specific or identified procurement covering goods, infrastructure project or consulting services. A Procurement Project shall be described, detailed, and scheduled in the Project Procurement Management Plan prepared by the agency which shall be consolidated in the procuring entity's Annual Procurement Plan. (GPPB Circular No. 06-2019 dated 17 July 2019)

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

Supplier – refers to a citizen, or any corporate body or commercial company duly organized and registered under the laws where it is established, habitually established in business and engaged in the manufacture or sale of the merchandise or performance of the general services covered by his bid. (Item 3.8 of GPPB Resolution No. 13-2019, dated 23 May 2019). Supplier as used in these Bidding Documents may likewise refer to a distributor, manufacturer, contractor, or consultant.

UN – United Nations

Section I. Invitation to Bid



INVITATION TO BID

Procurement for the Supply, Delivery, Installation, Testing, and Commissioning of Nine Thousand Eight Hundred Twenty-Two (9,822) Units of Solar Home System for Siargao Electric Cooperative, Inc. (SIARELCO), Dinagat Island Electric Cooperative, Inc. (DIELCO), Siasi Electric Cooperative, Inc. (SIASELCO), Busuanga Island Electric Cooperative, Inc. (BISELCO), Eastern Samar Electric Cooperative, Inc. (ESAMELCO), Cotabato Electric Cooperative, Inc. – PPALMA (COTELCO-PPALMA), Basilan Electric Cooperative, Inc. (BASELCO), and Maguindanao Electric Cooperative, Inc. (MAGELCO) Franchise Areas

1. The *National Electrification Administration (NEA)*, through the *Regular Agency Fund, FY 2024 General Appropriations Act (GAA), RA No. 11975 and 2011-2022 NEA Subsidy Savings* intends to apply the sum of *Two Hundred Eighty-Six Million Seventy-Seven Thousand Six Hundred Sixty-Nine and Ninety Centavos (P286,077,669.90)* being the Approved Budget for the Contract (ABC) to payments under the contract for the *Procurement for the Supply, Delivery, Installation, Testing, and Commissioning of Nine Thousand Eight Hundred Twenty-Two (9,822) Units of Solar Home System for Siargao Electric Cooperative, Inc. (SIARELCO), Dinagat Island Electric Cooperative, Inc. (DIELCO), Siasi Electric Cooperative, Inc. (SIASELCO), Busuanga Island Electric Cooperative, Inc. (BISELCO), Eastern Samar Electric Cooperative, Inc. (ESAMELCO), Cotabato Electric Cooperative, Inc. – PPALMA (COTELCO-PPALMA), Basilan Electric Cooperative, Inc. (BASELCO), and Maguindanao Electric Cooperative, Inc. (MAGELCO) Franchise Areas NEA-PB No. 2025-07*. Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The *NEA* now invites bids for the above Procurement Project. The supply, delivery, installation, testing, and commissioning of the 9,822 units of solar home system is required within *One Hundred Eighty Days (180) days upon receipt of the Notice to Proceed (NTP)*. Bidders should have completed, within *ten (10) years* from the date of submission and receipt of bids, a contract similar to the Project, or any energy-related project such as generation, transmission, and distribution segment. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).
3. Bidding will be conducted through open competitive bidding procedures using a non-discretionary "*pass/fail*" criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184. Bidding is open to all interested bidders, whether local or foreign, subject to the conditions for eligibility provided in the 2016 revised IRR of RA No. 9184.



4. Prospective Bidders may obtain further information from the *National Electrification Administration- Special Bids and Awards Committee (NEA SBAC) Secretariat* and inspect the Bidding Documents at the *BAC Office, 3/F Right Wing, NEA Bldg, #57 NIA Road, Government Center, Diliman Quezon City* from *Monday to Friday, 8:00 A.M. to 5:00 P.M.*
5. A complete set of Bidding Documents may be acquired by interested Bidders on *February 19, 2025* at the address and time stated above, upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of **₱50,000.00**. The Procuring Entity shall allow the bidder to present its proof of payment for the fees *in person*.
6. The NEA will hold a hybrid (online and onsite) Pre-Bid Conference on *February 27, 2025, 1:30 pm* at *NEA-HES Auditorium, 2nd Floor, NEA Building, #57 NIA Road, Diliman, Q.C.*, which shall be open to prospective bidders.
7. Bids must be duly received by the BAC Secretariat through manual submission at the office address indicated below on or before *March 11, 2025, 8:00am*. Late bids shall not be accepted.

***National Electrification Administration
BAC Office, 3/F Right Wing, NEA Bldg,
#57 NIA Road, Government Center, Diliman Quezon City***

8. All Bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 14.
9. Bid opening shall be on *March 11, 2025, 8:30am* at the given address below. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

***National Electrification Administration
NEA-HES Auditorium
2/F., Left Wing, NEA Bldg. #57 NIA Rd., Government Center,
Diliman, Quezon City***

10. The NEA reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised IRR of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.
11. For further information, please refer to:

JULIO H. COLINA
Head, SBAC Secretariat
National Electrification Administration
BAC Office, 3/F Right Wing, NEA Building,
#57 NIA Road, Government Center, Diliman, Quezon City
E-mail address: nea.bac.secretariat9184@gmail.com
Tel No.: 8929-19-09 loc 3138

12. You may visit the following websites:

For downloading of Bidding Documents: ***<http://www.nea.gov.ph/ao39/bids-and-notices>***

Quezon City, Philippines. 19 February 2025.

(Sgd.)

ENGR. ERNESTO O. SILVANO, JR.
NEA-SBAC Chairperson

Section II. Instructions to Bidders

1. Scope of Bid

The Procuring Entity, *NEA* wishes to receive Bids for the *Procurement for the Supply, Delivery, Installation, Testing, and Commissioning of Nine Thousand Eight Hundred Twenty-Two (9,822) Units of Solar Home System for Siargao Electric Cooperative, Inc. (SIARELCO), Dinagat Island Electric Cooperative, Inc. (DIELCO), Siasi Electric Cooperative, Inc. (SIASELCO), Busuanga Island Electric Cooperative, Inc. (BISELCO), Eastern Samar Electric Cooperative, Inc. (ESAMELCO), Cotabato Electric Cooperative, Inc. – PPALMA (COTELCO-PPALMA), Basilan Electric Cooperative, Inc. (BASELCO), and Maguindanao Electric Cooperative, Inc. (MAGELCO) Franchise Areas* with identification number *NEA-PB No. 2025-07*.

The Procurement Project (referred to herein as “Project”) is composed of *one (1) Lot*, the details of which are described in Section VII (Technical Specifications).

2. Funding Information

2.1. The GOP through the source of funding for the purchase of Photovoltaic Mainstreaming (Solar Home System) for rural electrification is the Regular Agency Fund, *FY 2024 General Appropriations Act (GAA), RA No. 11975 and 2011-2022 NEA Subsidy Savings* in the amount of **₱286,077,669.90**.

3. Bidding Requirements

The Bidding for the Project shall be governed by all the provisions of RA No. 9184 and its 2016 revised IRR, including its Generic Procurement Manuals and associated policies, rules and regulations as the primary source thereof, while the herein clauses shall serve as the secondary source thereof.

Any amendments made to the IRR and other GPPB issuances shall be applicable only to the ongoing posting, advertisement, or **IB** by the BAC through the issuance of a supplemental or bid bulletin.

The Bidder, by the act of submitting its Bid, shall be deemed to have verified and accepted the general requirements of this Project, including other factors that may affect the cost, duration and execution or implementation of the contract, project, or work and examine all instructions, forms, terms, and project requirements in the Bidding Documents.

4. Corrupt, Fraudulent, Collusive, and Coercive Practices

The Procuring Entity, as well as the Bidders and Suppliers, shall observe the highest standard of ethics during the procurement and execution of the contract. They or through an agent shall not engage in corrupt, fraudulent, collusive, coercive, and obstructive practices defined under Annex “I” of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

5. Eligible Bidders

- 5.1. Only Bids of Bidders found to be legally, technically, and financially capable will be evaluated.
- 5.3. Pursuant to Section 23.4.1.3 of the 2016 revised IRR of RA No. 9184, the Bidder shall have an SLCC that is at least one (1) contract complete within ten (10) years from the date of submission and receipt of bids similar to the Project, or any energy-related project such as generation, transmission, and distribution segment, the value of which, adjusted to current prices using the PSA's CPI, must be at least equivalent to:
 - a. The Bidder must have completed a single contract that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC.
- 5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.1 of the 2016 IRR of RA No. 9184.

6. Origin of Goods

There is no restriction on the origin of goods other than those prohibited by a decision of the UN Security Council taken under Chapter VII of the Charter of the UN, subject to Domestic Preference requirements under **ITB** Clause 18.

7. Subcontracts

- 7.1. The Bidder may subcontract portions of the Project to the extent allowed by the Procuring Entity as stated herein, but in no case more than twenty percent (20%) of the Project.

The Procuring Entity has prescribed that:

- a. Subcontracting is not allowed.

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address as indicated in paragraph 6 of the **IB**.

9. Clarification and Amendment of Bidding Documents

Prospective bidders may request for clarification on and/or interpretation of any part of the Bidding Documents. Such requests must be in writing and received by the Procuring Entity, either at its given address or through electronic mail indicated in the **IB**, at least ten (10) calendar days before the deadline set for the submission and receipt of Bids.

10. Documents comprising the Bid: Eligibility and Technical Components

- 10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section VIII (Checklist of Technical and Financial Documents)**.
- 10.2. The Bidder's SLCC as indicated in **ITB** Clause 5.3 should have been completed within *ten (10) years* prior to the deadline for the submission and receipt of bids.
- 10.3. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. Similar to the required authentication above, for Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.

11. Documents Comprising the Bid: Financial Component

- 11.1. The second bid envelope shall contain the financial documents for the Bid as specified in **Section VIII (Checklist of Technical and Financial Documents)**.
- 11.2. If the Bidder claims preference as a Domestic Bidder or Domestic Entity, a certification issued by DTI shall be provided by the Bidder in accordance with Section 43.1.3 of the 2016 revised IRR of RA No. 9184.
- 11.3. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.
- 11.4. For Foreign-funded Procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.

12. Bid Prices

- 12.1. Prices indicated on the Price Schedule shall be entered separately in the following manner:
 - a. For Goods offered from within the Procuring Entity's country:
 - i. The price of the Goods quoted EXW (ex-works, ex-factory, ex-warehouse, ex-showroom, or off-the-shelf, as applicable);
 - ii. The cost of all customs duties and sales and other taxes already paid or payable;
 - iii. The cost of transportation, insurance, and other costs incidental to delivery of the Goods to their final destination; and
 - iv. The price of other (incidental) services, if any, listed in the **BDS**.

- b. For Goods offered from abroad:
 - i. Unless otherwise stated in the **BDS**, the price of the Goods shall be quoted delivered duty paid (DDP) with the place of destination in the Philippines as specified in the **BDS**. In quoting the price, the Bidder shall be free to use transportation through carriers registered in any eligible country. Similarly, the Bidder may obtain insurance services from any eligible source country.
 - ii. The price of other (incidental) services, if any, as listed in the **BDS**.

13. Bid and Payment Currencies

- 13.1. For Goods that the Bidder will supply from outside the Philippines, the bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies, shall be converted to Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.
- 13.2. Payment of the contract price shall be made in:
 - a. Philippine Pesos.

14. Bid Security

- 14.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.
- 14.2. The Bid and bid security shall be valid for One Hundred Twenty days from the opening or until **July 11, 2025**. Any Bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

15. Sealing and Marking of Bids

Each Bidder shall submit one copy of the first and second components of its Bid.

The Procuring Entity may request additional hard copies and/or electronic copies of the Bid. However, failure of the Bidders to comply with the said request shall not be a ground for disqualification.

If the Procuring Entity allows the submission of bids through online submission or any other electronic means, the Bidder shall submit an electronic copy of its Bid, which must be digitally signed. An electronic copy that cannot be opened or is corrupted shall be considered non-responsive and, thus, automatically disqualified.

16. Deadline for Submission of Bids

- 16.1. The Bidders shall submit on the specified date and time and at its address as indicated in paragraph 7 of the **IB**.

17. Opening and Preliminary Examination of Bids

- 17.1. The BAC shall open the Bids in public at the time, on the date, and at the place specified in paragraph 9 of the **IB**. The Bidders' representatives who are present shall sign a register evidencing their attendance. In case videoconferencing, webcasting or other similar technologies will be used, attendance of participants shall likewise be recorded by the BAC Secretariat.

In case the Bids cannot be opened as scheduled due to justifiable reasons, the rescheduling requirements under Section 29 of the 2016 revised IRR of RA No. 9184 shall prevail.

- 17.2. The preliminary examination of bids shall be governed by Section 30 of the 2016 revised IRR of RA No. 9184.

18. Domestic Preference

- 18.1. The Procuring Entity will grant a margin of preference for the purpose of comparison of Bids in accordance with Section 43.1.2 of the 2016 revised IRR of RA No. 9184.

19. Detailed Evaluation and Comparison of Bids

- 19.1. The Procuring Entity's BAC shall immediately conduct a detailed evaluation of all Bids rated "*passed*," using non-discretionary pass/fail criteria. The BAC shall consider the conditions in the evaluation of Bids under Section 32.2 of the 2016 revised IRR of RA No. 9184.

- 19.2. If the Project allows partial bids, bidders may submit a proposal on any of the lots or items, and evaluation will be undertaken on a per lot or item basis, as the case maybe. In this case, the Bid Security as required by **ITB** Clause 14 shall be submitted for each lot or item separately.

- 19.3. The descriptions of the lots or items shall be indicated in **Section VII (Technical Specifications)**, although the ABCs of these lots or items are indicated in the **BDS** for purposes of the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184. The NFCC must be sufficient for the total of the ABCs for all the lots or items participated in by the prospective Bidder.

- 19.4. The Project shall be awarded as follows:

One Project having several items that shall be awarded as one contract.

- 19.5. Except for bidders submitting a committed Line of Credit from a Universal or Commercial Bank in lieu of its NFCC computation, all Bids must include the NFCC computation pursuant to Section 23.4.1.4 of the 2016 revised IRR of RA No. 9184, which must be sufficient for the total of the ABCs for all the lots or

items participated in by the prospective Bidder. For bidders submitting the committed Line of Credit, it must be at least equal to ten percent (10%) of the ABCs for all the lots or items participated in by the prospective Bidder.

20. Post-Qualification

- 20.2. Within a non-extendible period of five (5) calendar days from receipt by the Bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, the Bidder shall submit its latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS) and other appropriate licenses and permits required by law and stated in the **BDS**.

21. Signing of the Contract

- 21.1. The documents required in Section 37.2 of the 2016 revised IRR of RA No. 9184 shall form part of the Contract. Additional Contract documents are indicated in the **BDS**.

Section III. Bid Data Sheet

Bid Data Sheet

ITB Clause	
5.3	<p>For this purpose, contracts similar to the Project shall be:</p> <ul style="list-style-type: none"> a. energy-related projects such as generation, transmission, and distribution segment; b. completed within ten (10) years prior to the deadline for the submission and receipt of bids.
7.1	Subcontracting is not allowed.
12	The price of the Goods shall be quoted DDP <i>with the place of destination in the Philippines</i> or the applicable International Commercial Terms (INCOTERMS) for this Project.
14.1	<p>The bid security shall be in the form of a Bid Securing Declaration, or any of the following forms and amounts:</p> <ul style="list-style-type: none"> a. The amount of not less than two percent (2%) of the ABC, if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; or b. The amount of not less than five percent (5%) of the ABC, if bid security is in Surety Bond. <p>Bid security shall be valid for one hundred twenty (120) calendar days, which is on July 11, 2025.</p>
19.3	<i>Not Applicable</i>
20.2	<i>No further instructions.</i>
21.1	<i>Service Level Agreement and Non-Disclosure Agreement</i>

Section IV. General Conditions of Contract

1. **Scope of Contract**

This Contract shall include all such items, although not specifically mentioned, that can be reasonably inferred as being required for its completion as if such items were expressly mentioned herein. All the provisions of RA No. 9184 and its 2016 revised IRR, including the Generic Procurement Manual, and associated issuances, constitute the primary source for the terms and conditions of the Contract, and thus, applicable in contract implementation. Herein clauses shall serve as the secondary source for the terms and conditions of the Contract.

This is without prejudice to Sections 74.1 and 74.2 of the 2016 revised IRR of RA No. 9184 allowing the GPPB to amend the IRR, which shall be applied to all procurement activities, the advertisement, posting, or invitation of which were issued after the effectivity of the said amendment.

Additional requirements for the completion of this Contract shall be provided in the **Special Conditions of Contract (SCC)**.

2. **Advance Payment and Terms of Payment**

2.1. Advance payment of the contract amount is provided under Annex “D” of the revised 2016 IRR of RA No. 9184.

2.2. The Procuring Entity is allowed to determine the terms of payment on the partial or staggered delivery of the Goods procured, provided such partial payment shall correspond to the value of the goods delivered and accepted in accordance with prevailing accounting and auditing rules and regulations. The terms of payment are indicated in the **SCC**.

3. **Performance Security**

Within ten (10) calendar days from receipt of the Notice of Award by the Bidder from the Procuring Entity but in no case later than the signing of the Contract by both parties, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR of RA No. 9184.

4. **Inspection and Tests**

The Procuring Entity or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Project specifications at no extra cost to the Procuring Entity in accordance with the Generic Procurement Manual. In addition to tests in the **SCC, Section VII (Technical Specifications)** shall specify what inspections and/or tests the Procuring Entity requires, and where they are to be conducted. The Procuring Entity shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.

All reasonable facilities and assistance for the inspection and testing of Goods, including access to drawings and production data, shall be provided by the Supplier to the authorized inspectors at no charge to the Procuring Entity.

5. Warranty

- 5.1 In order to assure that manufacturing defects shall be corrected by the Supplier, a warranty shall be required from the Supplier as provided under Section 62.1 of the 2016 revised IRR of RA No. 9184.
- 5.2 The Procuring Entity shall promptly notify the Supplier in writing of any claims arising under this warranty. Upon receipt of such notice, the Supplier shall, repair or replace the defective Goods or parts thereof without cost to the Procuring Entity, pursuant to the Generic Procurement Manual.

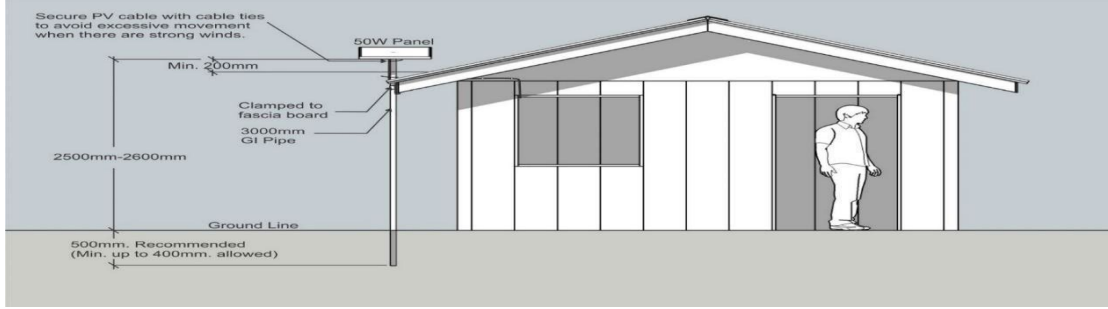
6. Liability of the Supplier

The Supplier's liability under this Contract shall be as provided by the laws of the Republic of the Philippines.

If the Supplier is a joint venture, all partners to the joint venture shall be jointly and severally liable to the Procuring Entity.

Section V. Special Conditions of Contract

Special Conditions of Contract

GCC Clause	
1	<p>INSTALLATION OF SHS –</p> <p>The installation of the SHS shall follow best practices suitable to the type of houses of the MCO’s and the local environment of the site. This section provides the recommended installation procedures based on earlier experiences in the implementation similar projects. These procedures serve as a guide for installers and will be the basis for the NEA for accepting the installation or for requiring corrective measures. Modification of these procedures shall be approved by NEA in consultation and in agreement with the SUPPLIER and the NEA.</p> <p>PV Module Mounting</p> <p>The PV module shall be installed in a location within the premises of the MCO with maximum exposure to the noon sun, minimum shading from the east to the west, and securely fixed on its mounting structure against damage from strong winds. The minimum exposure of the PV module to the sun shall be 6 hours (e.g. from 9AM to 3PM). Exposure of the PV module to the morning sun is preferred over the afternoon sun if 9AM to 3PM exposure is not possible.</p> <p>Roof-Side Pole Mounted Option</p> <p>The base of the mounting pipe is buried on the ground and the upper part of the pipe is clamped to the fascia board or on a sturdy structure on the side of the roof with the solar module on top of the pipe positioned above the roof. The depth of how the pipe is buried shall allow the PV module to have a minimum vertical distance of 20cm above the roof.</p>  <p>Diagram 4. Side. Roof-side Pole mounted PV module option</p> <p>The PV cable shall be securely connected to the junction box with the correct polarity and laid along the frame and strapped to the top of the post to avoid stress on the junction box. The PV cable shall be strapped on the outside part of</p>

the pipe going down and bent to make a drip loop before entering the house for connecting to the PV input of the battery enclosure.

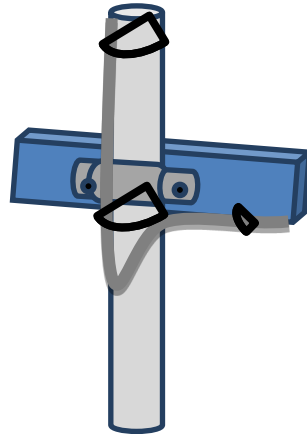


Diagram 5. Drip loop for PV cable.

Care should be taken to avoid PV cable from resting on the sharp edges of the roof that could damage its insulation. The mounting straps and cable ties used to fasten the cable shall be UV rated. The PV cable shall be laid neatly and clamped on the beams and posts of the house towards the battery enclosure. The extra PV cable length shall not be cut but spooled neatly and fastened near the battery enclosure.



Sample Roof-side Pole mounted installation

This mounting option is preferred to avoid penetration on the roof for both GI sheet roofs and thatched (nipa or cogon) roofs. This is only possible for roofs with elevations of around 2 meters from the ground. This may not be applied for roofs with high elevation and roofs with no strong structure that will hold the pipe securely on the side.

Through-roof Pole Mounting Option

In this type of installation, the pole is passed through the roof with the lower part of the pipe clamped on the post of the house while the upper part of the pipe is above the roof holding the PV module on its mounting bracket with a minimum vertical distance of 20cm above the roof.

This type of installation will have roof-penetration and shall only be allowed upon the consent of the house owner/MCO. The installer shall assure that all necessary materials are available to avoid any leaks on the roof.

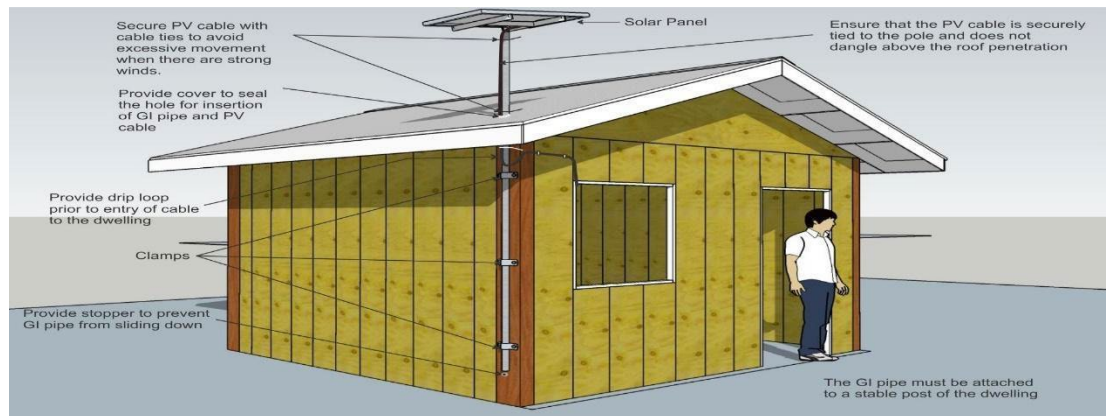


Diagram 6 : Through-Roof Pole mounted installations

For houses with GI sheet roofs, the pipe can be positioned on the inside part of the house fastened to the house post passing through the GI sheet roof. The PV cable shall be laid on the side the pipe. A drip loop is made on the PV cable before making the PV cable run to the battery enclosure. The penetration on the GI roof shall be sealed against leaks using appropriate roof sealing materials.



Diagram 7: Roof-through Pole mounted installations on GI roofs

For thatched roof (nipa or cogon) where sealing of the roof may still have some leaks, the pipe shall be positioned on the outside part of the house to prevent leaks on the roof from entering the house. Effort should be done to seal the leaks using the same roofing material or appropriate sealing material.



Diagram 8: Roof-through Pole mounted installations on thatched roof

The PV cable shall be laid neatly and clamped on the beams and posts of the house towards the battery enclosure.

Charge Controller and Battery Enclosure

The charge controller and battery box enclosure shall be securely mounted inside the house for easy access to read the displays and indicator lights as well as entering the credits into the unit. The position of the PV cable connected to the enclosure shall avoid stresses on the connector and avoid water from dripping into the enclosure. The location of the enclosure shall be accessible to connect the lamps, accessories, and other appliances. It shall be protected from direct sunlight and exposure to rain.

LED Lamps

There are four LED lamps included in the system. One lamp rated at 1W is designed to be installed indoors and outdoors with the necessary protection. The rest of the lamps shall be installed inside the house protected from rain and dust.

The lamps shall be positioned to provide the most effective illumination to the area. The lamps shall not be installed along the path of the household members that they can be easily be damaged. Installing the lamp directly above the cooking area shall be avoided due to the fast accumulation of soot on the lamps.

Wires and Switches

The LED lamps are supplied with wires and switches with a DC plug connected to the battery enclosure. The wire shall be laid neatly from the battery enclosure to the lamp with a switch positioned on an accessible location. It is recommended to install the switches with a height of 1.2m above the floor as appropriate for the house structure or as preferred by the user. The switch shall be securely mounted to prevent it from being damaged. Daisy chain looms can be used with a maximum of two lamps per circuit. Excess cable lengths shall not be cut but spooled neatly and fastened near the battery enclosure or in an appropriate location.

Accessories

The accessories such as the torch, the portable radio, and the cellular phone charging jacks shall be located near the battery enclosure where they are plugged to the USB port.

After-Sales Service (Post-Installation)

Payment will be made to the SUPPLIER after final verification of the installation of the SHS and their associated Loading Machines and no other on-site obligations will be demanded of the SUPPLIER except for the standard warranties under the Warranty Period.

The warranties will cover both the entire SHS package as well as individual components and accessories to the package.

The individual component and accessories to the package shall be made available for purchase by the EC even after warranty period.

2

DELIVERABLES

	DELIVERABLES	DUE DATE
Factory Acceptance Test		
1	Factory Acceptance Test	Within thirty (30) days after receipt of Notice of Post Qualification
Training		
2	Conduct of training (installation and operation)	Within forty (40) days from receipt of Notice to Proceed.
On-Site Delivery of Materials		

	3	Delivery of 100% materials on site	Within seventy-five (75) days from receipt of Notice to Proceed.
	Installation of Solar Home System		
	4	Installation of Solar Home System should be at least 22% accomplished per Electric Cooperative	Within ninety-five (95) days from receipt of Notice to Proceed.
	5	Installation of Solar Home System should be at least 44% accomplished per Electric Cooperative	Within one hundred and fifteen (115) days from receipt of Notice to Proceed.
	6	Installation of Solar Home System should be at least 66% accomplished per Electric Cooperative	Within one hundred and thirty-five (135) days from receipt of Notice to Proceed.
	7	Installation of Solar home system should be at least 88% accomplished per Electric Cooperative	Within one hundred and fifty-five (155) days from receipt of Notice to Proceed.
	8	Installation of Solar home system should be at 100% accomplished per Electric Cooperative	Within one hundred and seventy-five (175) days from receipt of Notice to Proceed.
	Accomplishment Reports		
	9	Submission of Weekly Installation Report (IR) together with the individual folder of high-resolution IAS and detailed per beneficiary installation pictures	Reporting starts five (5) days after the first week of installation.
	10	Submission of final Installation Report together with last addition of individual folder of high resolution IAS and detailed per beneficiary installation pictures	Within five (5) days after completion of installation

3	<p>OBLIGATIONS OF THE SUPPLIER</p> <p>The Supplier shall assume the following obligations:</p> <ol style="list-style-type: none"> a. Ensure timely delivery of equipment and materials to the EC’s warehouse; b. Guarantee the safe keeping of equipment and materials until delivery to the EC’s warehouse; c. Ensure timely installation based on the deliverables; d. Provide weekly accomplishment reports and final report based on the approved format and schedule; and e. Must provide a dedicated person in-charge (PIC) as contact point and project coordinator. The PIC is liaised directly with the Solar Business Unit (SBU) of the EC. Template will be provided.
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4

PAYMENT SCHEME

Payment to the supplier shall be made based on the schedule below:

Original Releases Schedule

	Contract Milestones	% of the Total Budget
1	<ul style="list-style-type: none"> - Factory Acceptance Test Certificate with "passed" remark - With signed contract - With Notice of Award and Notice to Proceed 	*15%
2	<ul style="list-style-type: none"> - Training (installation and operation) already conducted except the final training of the SBU staff - 50% on-site delivery of materials - Certificate of Delivery issued by NEA 	50%
3	<ul style="list-style-type: none"> - Installation of Solar Home System should be at least 50% accomplished with complete Installation Report (IR) and individual folder of high-resolution IAS together with detailed per beneficiary installation pictures submitted to NEA. - 100% on-site delivery of materials - Certificate of Partial Completion/Verification issued by NEA. 	15%
4	<ul style="list-style-type: none"> - Installation of Solar Home System should be at least 90% accomplished with complete Installation Report (IR) and individual folder of high-resolution IAS together with detailed per beneficiary installation pictures submitted to NEA. - Certificate of Partial Completion/Verification issued by NEA. 	10%
5	<ul style="list-style-type: none"> - Certificate of Final Inspection and Acceptance/Final Verification issued by NEA - Complete Final Training of the SBU staff 	10%

	<ul style="list-style-type: none"> - Final Installation Report (IR) and individual folder of high-resolution IAS together with detailed per beneficiary installation pictures submitted to NEA. - Certificate of Completion submitted by the Contractor (SHS and Loading Machines) 		
	TOTAL	100%	
<p>Note: * The advance payment shall be made only upon the submission to and acceptance by the procuring entity of an irrevocable standby letter of credit of equivalent value from a commercial bank, a bank guarantee or a surety bond callable upon demand, issued by a surety or insurance company duly licensed by the Insurance Commission and confirmed by the procuring entity.</p> <p>The obligation for the warranty shall be covered by either retention money in an amount equivalent to at least one percent (1%) but not to exceed five percent (5%) of every progress payment, or a special bank guarantee equivalent to at least one percent (1%) but not to exceed five percent (5%) of the total contract price. The said amounts shall only be released after the lapse of the warranty period or, in the case of Expendable Supplies, after consumption thereof: Provided, however, That the supplies delivered are free from patent and latent defects and all the conditions imposed under the contract have been fully met.</p>			
<p>The inspections and tests that will be conducted are:</p> <ol style="list-style-type: none"> 1. Factory Acceptance Test 2. Inspection of the delivery of materials 3. Inspection of the installation of the solar home system 4. Review of the weekly installation reports 5. Review of the final installation report 			

Section VI. Schedule of Requirements

The delivery schedule expressed as weeks/months stipulates hereafter a delivery date which is the date of delivery to the project site.

	DELIVERABLES	DUE DATE	QUANTITY	TOTAL
Acceptance Test				
1	Factory Acceptance Test	Within thirty (30) days after receipt of the Notice of Post-qualification	1	100%
Training				
2	Conduct of training (installation and operation)	Within forty (40) days from receipt of the Notice to Proceed.	100%	100%
On-Site Delivery of Materials				
3	Delivery of 100% materials on site	Within seventy-five (75) days from receipt of the Notice to Proceed.	100%	100%
Installation of SHS				
4	Installation of Solar Home System should be at least 22% accomplished per Electric Cooperative	Within ninety-five (95) days from receipt of the Notice to Proceed.	22%	22%
5	Installation of Solar Home System should be at least	Within one hundred fifteen (115)	22%	44%

	44% accomplished per Electric Cooperative	days from receipt of the Notice to Proceed.		
6	Installation of Solar Home System should be at least 66% accomplished per Electric Cooperative	Within one hundred and thirty-five (135) days from receipt of the Notice to Proceed.	22%	66%
7	Installation of Solar home system should be at least 88% accomplished per Electric Cooperative	Within one hundred fifty-five (155) days from receipt of the Notice to Proceed.	22%	88%
8	Installation of Solar home system should be at 100% accomplished per Electric Cooperative	Within one hundred and seventy-five (175) days from receipt of the Notice to Proceed.	22%	100%
Accomplishment Reports				
9	Submission of Weekly Installation Report (IR) together with the individual folder of high-resolution IAS and detailed per beneficiary installation pictures	Reporting starts five (5) days after the first week of installation.		
10	Submission of final Installation Report together with last addition of individual folder of high resolution IAS	Within five (5) days after completion of installation		

	and detailed per beneficiary installation pictures			
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Warranty Period

Under the Warranty Period, the SUPPLIER shall provide a 2-year full system warranty and a separate 10-year warranty specifically for the battery. During these warranty periods, the SUPPLIER shall assist the EC through every means possible to ensure the replacement of defective parts (covered by the warranty) within a two-week period at no (zero) cost to NEA and EC. Failure to replace the defective parts within specified period shall result in imposition of a penalty, which shall be deducted from any amount due to Supplier. The Warranty Period is an additional requirement to the standard Component Warranties.

The Warranty Period will start on the day of Verification Acceptance from NEA received by the SUPPLIER for the last installation on the lot.

The SUPPLIER will bear full transportation costs of faulty equipment and replacement parts being claimed under warranty for the entire duration covering the Warranty Period.

The SUPPLIER will be the focal point for the life of the Warranties and all claims will be undertaken through the SUPPLIER for replacement units, components, and accessories.

The EC SBU is responsible to undertake O&M, and to promote an efficient and sustainable O&M service, a smooth warranty claim process is required. The SUPPLIER will work with the EC SBU staff to establish such a process, training EC SBU technicians to test and undertake the fixing of minor issues, and defining the terms and procedure for parts replacement under warranty, as required.

A Hotline directing all technical queries shall be set up for EC SBU technicians to have immediate and direct communication with the SUPPLIER technician when required, for the entire period of the Warranty Period

Component Warranties

In addition to the general Warranty Period of 2-year full system warranty and a separate 10-year warranty for battery, warranties on the components shall meet the following requirements:

Component	Warranty (Year)	Description
PV Module	10	80% of rated power after 10 years
Batteries	10	
Charge Controller	2	
Loading Machine	3	

LED Lights	2	LED to 70% of initial lumen output
Other Appliances	1	

Table 4: *Component Warranty Requirements*

Manufacturers' Warranties will start at the same time as the Warranty Period, detailed in Warranty Period.

Further, as part of the Warranty Period undertaking, the SUPPLIER shall maintain the EC defined stock level ensuring responsibility for the claim and replacement of any spare part, as detailed in, the Warranty Period.

Component/Accessories	Spare Requirement %/lot size
SHS kits	0.2%
PV modules	2%
Battery	2%
Charge Controller	2%
Loading Machine	15% of the total vending machines calculated based on the ratio of one (1) vending machine per one hundred (100) SHS units
PV module mounting hardware	1%
LED bulb	3%
Lamp socket	
Lamp wire	
Lamp switch	
Lamp plug	

Torch & charging cable	2%
Radio & charging cable, if any	1%
USB Port	2%
USB phone charging cable	1%
RFID Card	3%
PV to controller cable	1%

Table 5: Spare Parts Requirements

The SUPPLIER shall maintain the EC stock at this level throughout the Warranty Period.

The SUPPLIER shall provide one (1) complete set of SHS including Vending Machine and VMS to NEA.

You may refer to the attached Terms of Reference for the full schedule of requirements.

Section VII. Technical Specifications

Technical Specifications

Item	Specification	Statement of Compliance																																									
1	<p>The following section defines the Technical Specifications and Standards required for the supply, delivery, installation, testing and commissioning, including labor, material and equipment.</p> <p>This section aims to provide a strong guidance in forming the required package while also providing some flexibility by defining the specifications. Any apparatus, material, or work not indicated in the submitted plan of the SUPPLIER or any incidental accessories necessary to make the work complete and perfect in all aspects and ready for operation even if not particularly stated in this TOR, shall be provided, delivered, and installed by the SUPPLIER without additional expense to the procuring entity</p> <p>Further, this section aims to provide strong guidance in forming the required whole package also providing some flexibility by defining the specifications.</p> <p>It is expected that the SHS have been designed to have an operation life of at least 10 years with one battery and controller replacement.</p> <p>System Requirement</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 40%;">Total Design Load (per day)</td> <td style="text-align: right;">95Wh</td> </tr> </table> <p style="text-align: center;">Table 8: System Requirements</p> <p>The designed level of service requirement is outlined in the following two tables, separated as Lighting & Accessories:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th rowspan="2">Qty</th> <th rowspan="2">Description</th> <th rowspan="2">Part ID</th> <th>Usage</th> <th>Minimum Brightness</th> <th>Maximum Power</th> <th>Daily Demand</th> </tr> <tr> <th>Hrs/day</th> <th>Lumens</th> <th>Watts</th> <th>Wh/day</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Indoor/Outdoor Lamp</td> <td>LAMP1</td> <td style="text-align: center;">8</td> <td style="text-align: center;">100</td> <td style="text-align: center;">1</td> <td style="text-align: center;">8</td> </tr> <tr> <td style="text-align: center;">2</td> <td>Indoor Lamps</td> <td>LAMP2</td> <td style="text-align: center;">5</td> <td style="text-align: center;">200</td> <td style="text-align: center;">2</td> <td style="text-align: center;">20</td> </tr> <tr> <td style="text-align: center;">1</td> <td>Indoor Lamps</td> <td>LAMP3</td> <td style="text-align: center;">3</td> <td style="text-align: center;">300</td> <td style="text-align: center;">3</td> <td style="text-align: center;">9</td> </tr> <tr> <td style="text-align: center;">4</td> <td colspan="3"></td> <td style="text-align: center;">800</td> <td style="text-align: center;">8</td> <td style="text-align: center;">40</td> </tr> </tbody> </table> <p style="text-align: center;">Table 9: Daily Home Accessories Service Requirements</p>	Total Design Load (per day)	95Wh	Qty	Description	Part ID	Usage	Minimum Brightness	Maximum Power	Daily Demand	Hrs/day	Lumens	Watts	Wh/day	1	Indoor/Outdoor Lamp	LAMP1	8	100	1	8	2	Indoor Lamps	LAMP2	5	200	2	20	1	Indoor Lamps	LAMP3	3	300	3	9	4				800	8	40	
Total Design Load (per day)	95Wh																																										
Qty	Description	Part ID	Usage	Minimum Brightness	Maximum Power	Daily Demand																																					
			Hrs/day	Lumens	Watts	Wh/day																																					
1	Indoor/Outdoor Lamp	LAMP1	8	100	1	8																																					
2	Indoor Lamps	LAMP2	5	200	2	20																																					
1	Indoor Lamps	LAMP3	3	300	3	9																																					
4				800	8	40																																					

Clarification to the Table:

1. TORCH is service defined as being the charging load on the SHS battery unit to recharge the torch battery. The assumption has been made on the torch battery being no greater than 5Wh in capacity and requiring full charge daily.
2. RADIO service is defined by that required to function as such, and having access to power.
3. MOBCH service is defined by that required to charge 2x phones in one day from the SHS battery unit. The assumption is that a 1x phone requires approximately up to 4.5Wh to recharge. Alternatively, the design accounts for 1x “smart” phone charge per day, requiring up to 9Wh to recharge.
4. LEDTV service is on the assumption that the TV offering from the Manufacturer is 9W or less when operating without the LED backlight activated (indoor use). DC LED TV is not included in the package to be supplied but the consumption is included in sizing the capacity of the system for future adaption of the member consumer.

LABELING AND DATABASE

Each system and each major component (controller box, panel) shall be trackable by individual barcode reader number along with the minimum labelling requirements that are to transfer to a central database to work in unison with the Loading System.

Minimum labelling and database requirements for the SHS and their components are as follows:

1. Label for the assembled SHS to identify stock. These labels shall be permanent and indelible with the following fields:
 - a. unique barcode;
 - b. manufacturer name;
 - c. model number; and
 - d. serial number.
2. Database for each major component supplied including the following fields:
 - a. unique barcode;
 - b. manufacturer name;
 - c. model number;
 - d. serial number;
 - e. supplier name;
 - f. date of manufacture (for components);
 - g. date of assembly (for SHS);
 - h. Tranche no (as shipped);
 - i. Date of installation; and
 - j. Date of warranty commencement.
3. Any other specific labelling requirements per component will be detailed below, under the component specifications.

Barcode reader information shall be included in any packing slips on the outside of the crates, to enable equipment tracking at any time during shipment and storage.

2

3	<p>PACKAGING AND DELIVERY</p> <p>The SHS SUPPLIER shall provide the PV system components, pre-assemble them into integrated packaged SHS in accordance with the specified design.</p> <p>All goods supplied shall be packaged to prevent shipping related damage at any point through to its final installation. The SUPPLIER is responsible for settling any shipping related damage claims and must replace any damaged systems through to installation in a timely manner.</p> <p>The SUPPLIER will also be required to collect all packaging, cartons, and any other material used to transport the goods and dispose of them appropriately and in accordance with any Environmental & Social Safeguards requirements. If the SUPPLIER agrees with MCOs and/or local officials to donate the packaging materials, this must be recorded with their consent.</p>													
4	<p>Component Specifications and Certification Standards</p> <p>1. Minimum Certification Standards</p> <p>Each component and/or appliance of the package, if not fully Lightning Global Quality Test Method (LG-QTM) verified, should comply with the minimum standard certification requirements as listed in Table 7, and any further requirement stipulated in each specific component section, further below. In general, the standard of the International Electro-technical Commission (IEC) is applied, but equivalent standards may be offered. A certified copy of the component’s Test Certificate shall be required from the ISO17025 accredited Test Center.</p> <table border="1" data-bbox="225 1312 1291 1753"> <thead> <tr> <th data-bbox="225 1312 625 1379">Component</th> <th data-bbox="625 1312 1291 1379">Minimum Certification Requirements</th> </tr> </thead> <tbody> <tr> <td data-bbox="225 1379 625 1447">PV Module (crystalline)</td> <td data-bbox="625 1379 1291 1447">IEC 61215, IEC 61701, IEC 17025</td> </tr> <tr> <td data-bbox="225 1447 625 1514">Charge Controller</td> <td data-bbox="625 1447 1291 1514">CE EMC</td> </tr> <tr> <td data-bbox="225 1514 625 1581">Battery</td> <td data-bbox="625 1514 1291 1581">IEC 61427, IEC 60896, IEC 17025, UN 2794</td> </tr> <tr> <td data-bbox="225 1581 625 1648">LED Lights</td> <td data-bbox="625 1581 1291 1648">IEC 62471, IES LM 79-19</td> </tr> <tr> <td data-bbox="225 1648 625 1753">Other Components Appliances</td> <td data-bbox="625 1648 1291 1753">Declaration of Conformity</td> </tr> </tbody> </table> <p style="text-align: center;">Table 10: Component Standards</p> <p>2. IEC Standard Certificate</p> <p>This highest certification is a full certificate from an accredited testing and certification organization acceptable to EC to confirm that the specific model of products or components offered complies with the entire</p>	Component	Minimum Certification Requirements	PV Module (crystalline)	IEC 61215, IEC 61701, IEC 17025	Charge Controller	CE EMC	Battery	IEC 61427, IEC 60896, IEC 17025, UN 2794	LED Lights	IEC 62471, IES LM 79-19	Other Components Appliances	Declaration of Conformity	
Component	Minimum Certification Requirements													
PV Module (crystalline)	IEC 61215, IEC 61701, IEC 17025													
Charge Controller	CE EMC													
Battery	IEC 61427, IEC 60896, IEC 17025, UN 2794													
LED Lights	IEC 62471, IES LM 79-19													
Other Components Appliances	Declaration of Conformity													

referenced technical standard, based on the sampling approach of that technical standard, including.

- a. A certified copy of the component's Test Certificate from the ISO17025 accredited Test Center.
- b. A copy of the Test Center's accreditation certificate, to conduct and certify the specific tests in the standard under consideration.
- c. This level of certification is required for the following components:
 - i. PV modules (as specified in table 10)
 - ii. Lead Carbon Batteries (as specified in table 10)

3. Test Result Certifications Based on Testing to Partial IEC Standard

The testing of components in ISO17025 certified laboratories to the full IEC standard using the required sampling is both expensive and time-intensive. Therefore, provision is made for testing to only the relevant parts of the standard (as a second-tier level of certification). Certified test results are required from an accredited testing and certification organization acceptable to EC to confirm that the specific model of products or components offered have been tested to referenced test procedure in the standard.

- a. A copy of the test center accreditation certificate, to conduct and certify the specific tests in the standard under consideration.
- b. Detailed test results shall be provided for the specific tests conducted in the standard for all the samples tested.
- c. This form is acceptable for the following components only:
 - i. Batteries cycle life tests, but cell itself must be certified to IEC 61427
 - ii. Charge controllers
 - iii. LED lights must be certified to LM 79-19.

4. Photovoltaic Modules

Certification standards

Compulsory certifications are both of:

IEC 61215: Crystalline silicon terrestrial photovoltaic (PV) modules – Design qualification and type approval

IEC 61701 Ed.2: Salt mist corrosion testing of photovoltaic (PV) modules

IEC 17025: testing, calibration, and sampling are in highest quality, accuracy, and

Reliability

General requirements

The PV Modules will have an output of not less than 50Wp and will be sourced to have the following characteristics;

- a. Only silicon crystalline technology (poly or mono), thin films are not acceptable;
- b. Cells in series;
- c. Positive tolerance only on nominal power;
- d. Anodized aluminum frame required: marine grade / minimum thickness of frame 30mm;
- e. High transmission and high strength tempered glass;
- f. Equipped with a waterproof junction box (IP65) and a pre-assembled UV-resistant PV cable;
- g. All PV modules must be identical and use the same (i) production processes and construction methods; (ii) materials; and (iii) quality control procedures as a previously certified module.

5. Enclosure Box and Charge Controller

Certification standards

Compulsory certifications are:

CE EMC: ensures that electrical and electronic equipment does not interfere with other devices operation and not affected by electromagnetic interference

General requirements

The charge controller and battery shall be housed within a robust 'plug & play' enclosure/box, resistant to tampering and manufactured with all support or fixing system needed.

The **CONTROLLERS** will have the following minimum specifications:

- a. The controller shall be specifically designed for Lead Carbon battery management. The SUPPLIER shall provide proof or otherwise attest to this important point.
- b. The printed circuit boards (PCB) shall be coated with heavy-duty varnish to protect from corrosion.
- c. The controllers shall be machine manufactured (no manual assembly and welding).
- d. The controller shall have a microprocessor, with static regulation. PWM is preferred. DC-DC converter with MPPT is also possible, but not required.
- e. The controller must be well protected against short-circuits, overload, reverse polarity, and surge voltage.
- f. The controller shall be easily dismountable and replaceable by a qualified technician. In the event of replacement, the procedure to maintain the continuity of the prepayment credit and avoid loss of any purchased credit must be provided.
- g. All parts of the compartment subject to battery electrolyte contact shall be corrosion resistant.
- h. The charge controller shall have a charging regime applicable to the battery, with voltage set points preset at the factory.
- i. The controller shall be protected against short circuit of input and output terminals as well as reverse polarity.

- j. Electronic automatically resettable cut-offs are required- mechanical fuses are not acceptable.
- k. The controller shall be able to safely accept 125% of the module open circuit voltage when battery is removed.
- l. The controller shall be able to safely accept 125% of the module short circuit current.
- m. Indication of the battery state of charge (SOC) and indication of PV production shall be included and easily understandable for every customer.

Documentation and labelling

A **label** with main characteristics of the **Solar Package** (manufacturer/assembler, type and reference, serial number, individual ID number, battery capacity, PV peak power, standards) shall be placed on the battery box.

The charge controller must be labelled indicating at minimum:

- a. Manufacturer;
- b. Model Number;
- c. Battery (Lead Carbon);
- d. Nominal voltage;
- e. PV and Load Currents; and
- f. Barcode

6. Lead-Carbon Batteries

Off-grid power systems require dependable and economical energy storage solution, and lead-acid based batteries present numerous advantages in this aspect. They are economical, dependable, low-maintenance, recyclable and scalable.

Lead-Carbon batteries are types of advanced lead-acid battery, it offers cost-effective, superior performance in partial state-of-charge situations, and are perceived as safer and more environmentally sound.

AND

UN Transportation Testing (UN2794) for Lead-Acid Batteries

The expected battery life under the solar design cycling conditions (shall be determined from the certified battery cycle life curves, and shall exceed 3,600 cycles (10 years), before further de-rating for temperature conditions.

General requirements

The Lead-Carbon battery shall have a minimum storage capacity of **24Ah** and a nominal voltage of 12Vdc or 4V 50Ah @ C10.

The battery controller shall control in real time the charge/discharge of each cell of the battery, and to protect the battery by preventing it from

operating outside its typical safe operating range. In case of batteries in parallel, the controller is required to properly manage the energy flow and the voltage. The controller will protect the battery against full discharge by disconnecting the load when Depth of Discharge (DOD) reaches 70%.

Documentation and labelling

The SUPPLIER is required to provide the following data:

- a. Manufacturer;
- b. Type of the battery;
- c. Battery Voltage;
- d. Battery Capacity@C20 or better;
- e. Warranty information; and
- f. Barcode.

The SUPPLIER is required to provide for each battery type the following test data:

- a. Battery discharge performance curves at C10 or C20/C50 at a minimum; and
- b. Battery cycling curves or similar cycling test to 70% DoD at C20. 60% @ C30 or higher.

The SUPPLIER is required to provide the following general data:

- a. Battery discharge performance versus temperature;
- b. Battery cycle life versus depth of discharge;
- c. Battery cycle life versus battery temperature; and
- d. Product brochure.

The SUPPLIER shall provide instructions to the EC SBU on how and where to recycle worn batteries as part of the Technical Training.

7. Prepayment Controller/Loading Systems

A prepayment controller or loading system for payment activation is required to be supplied as part of the package.

General Requirements

The overall function of the system is to enable the sale of prepaid credit tokens to end-users such as that commonly used in the "PAYG" (Pay As You Go) industry. However, for the purposes of the document this is referred to SaaS "Solar as a Service" but the principle is the same. The term "prepaid credit" refers to the digital transfer of end user money to a digital code/token that can be transferred from the Loading System Machine to that of the end-user's SHS device by the SHS user input. The transfer of this digital code/token to the SHS device's prepayment controller will allow the device to be used as a service until the point at which that digital code's value has expired and all loads will turn off, as electronically programmed to the prepayment controller by the

entering of the digital code/token. The digital code will expire in accordance with the value of the number of days that was purchased by the end user upon receipt of the digital code/token into the SHS prepayment controller - not that by the date of purchase of the code/token. The number of loading machines shall be one per one-hundred (100) SHS units.

The “prepayment loading system controller” is defined as the unit integrated to the SHS device in which processes the input of end-user unique code to enable the SHS charge controller to turn on or off the load outputs dependent on the status of validity of the prepaid credit or existing credit.

Seamless operation with charge controller, and not interfering with battery charging at any time;

- a) Integrated prepaid solution to the controller/battery box, not an external device;
- b) Full numeric display of credit days available, which is easily understandable by the customer.

The “Loading Machine” is defined as the device which enables the creation of prepayment credit to be transferred to the end user, managed by a loading agent. The Loading Machine should be considered as a portable device (e.g. a mobile phone, laptop computer, tablet, etc.) without requiring a fixed power supply and should be rechargeable by the SHS supplied without the use of an inverter (ie. USB or 12Vdc output) and not be confused with fixed self-service style loading machines.

The “Loading System Management Software (LMS)” is defined as the software only, as operated by the EC-SBU to manage the deployment of the solar home systems and ongoing operation. In addition, the LMS shall serve the function to allow the EC-SBU to manage payment reconciliation from end users and Loading System Machine agents. The relationship between the three components and end user outlined in this section is shown below:

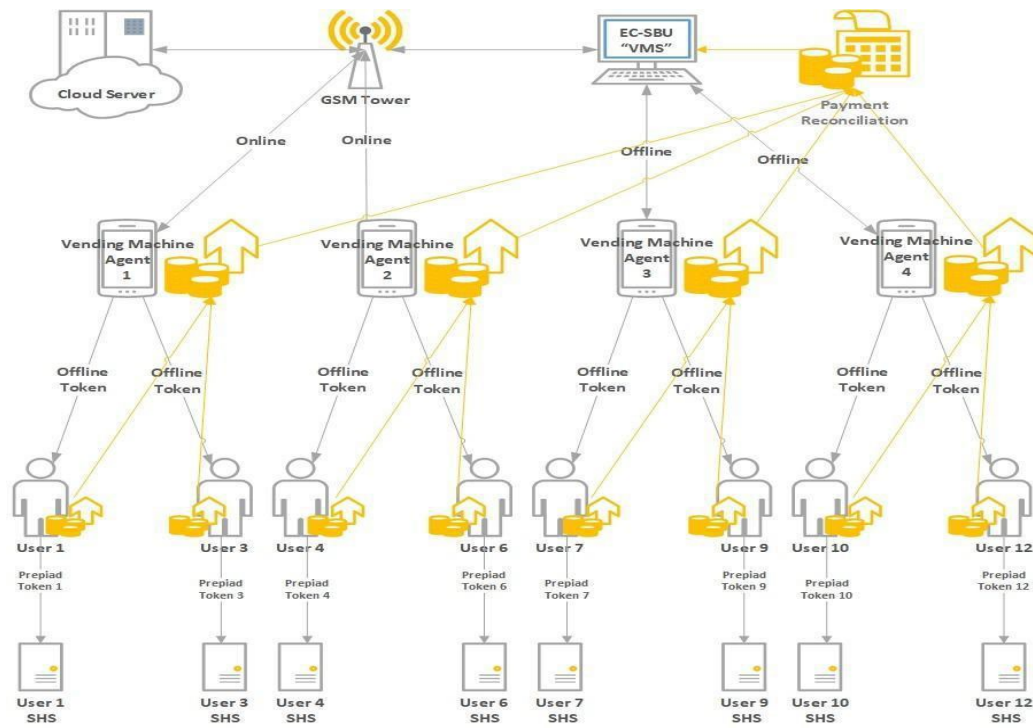


Figure 1. SHS Prepayment/Loading Machine/LMS Flow Chart

Figure 1 shows the loading process from end user to Loading Machine to Loading System Management Software. Loading System Machine operation is acceptable online/offline operations as shown in the figure above are:

- a. Operations acceptable in either online and offline mode;
 - i. Transfer of all Loading System Machine Agent data to the EC-SBU LMS, including but not limited to:
 - All end user personal and payment transaction data;
 - All agent personal and payment transaction data;
 - All SHS status and location data;
 - ii. Setting/resetting of Agent credit limit and credit availability can only be done by the Administrator (EC);
 - iii. Registration of end-users;
 - iv. Activation of SHS and assignment to end-users.
- b. Minimum operations required in offline mode:
 - i. Setting/resetting of Agent credit limit and credit availability can only be done by the Administrator;
 - ii. Registration of end users;
 - iii. Activation of SHS and assignment to end users.
- c. Minimum operations required in offline mode (that may also function online):
 - i. Creation of the prepaid digital token/token code for the end user;
 - ii. Transfer of the prepaid digital token/token code to the SHS

prepayment controller using the RFID card
 iii. Viewing end-user contact information.
 Any loading machines that do not adhere to the minimum online/offline requirements outlined above will not qualify.
 The software deployment of the full system (Loading System Machine and LMS) should adhere to the following minimum general requirements:

Item	Description
Compatibility	the software of the Loading System Machine should be compatible with a centrally managed PC running the compatibility Loading System Management Software.
Data integrity	the database of the LMS must either be operated from the cloud with backups maintained by the software provider or if stored on local hard drive of the PC running the LMS then the provider must supply cloud- based backup solution for the database. The cloud database associated with the system is accessible to the EC-SBU for monitoring and viewing purposes.
Security	the software for both Loading System Machine and LMS should be password protected in the event of theft. Additional security allowing the Loading System Machine to be inoperable via either remotely deactivated or via secondary methods such as requirement of a user key that can be cancelled to operate in tandem with the Loading System Machine, should be employed.
Credit Limits	the Loading System Machine shall have limits to the value of the prepayment credit (days or peso) for Loading System Machine that are set by the EC-SBU LMS. Credit limits shall only be reset once LMS has reconciled payments from the Loading System Machine agent. The mode for resetting of the credit limits should not require the transportation of the Loading System Machine to the EC-SBU LMS location and the transfer of changes to limits should be secure via wireless transfer (GSM).

<p>Payment Reconciliation</p>	<p>The LMS must have payment reconciliation features in which once Loading System Machine data is uploaded into the LMS software, end user transactions can be easily summarized and when Agent payment is inserted into the LMS a balance can be obtained to determine easily and quickly if the reconciled amount received matches that expected as collected by the Loading System Machine agent from the end-users. Outstanding balances should carry over to any future payment collections from Agents.</p>
<p>Dashboard</p>	<p>The LMS and Loading System Machine software should present information in a summarized way so that information can be captured 'at a glance' such as amount of moneys overdue (both of Loading Machines and End Users), status of users/SHSs etc., and then be easily filtered by criteria such as date/Agents/status/locations and others.</p>
<p>User Management</p>	<p>The LMS must be able to control and edit all aspects of user management including assigning roles to users as well editing user details. The Loading System Machine must be only able to update end user information such as Name, Phone Number, Address etc. and not manage roles.</p>
<p>SHS Management</p>	<p>The LMS and Loading System Machine must be able to control and edit all aspects of SHS management including assigning status of location, deployment status, serial number database and user assignment.</p>
<p>Territory Management</p>	<p>The LMS and Loading System Machine must be able to control and edit to which Loading Station an individual MC is assigned to. The purpose being to prevent MCs relocating with their SHS to a new location without permission while also preventing prepaid load income being collected by a neighboring EC's Loading Machine. The ability to be able to transfer the MC to a new Loading Station should be only permissible with LMS administrative privileges. The LMS should also have the option to disable Territory Management.</p>

Defaulting Users	The LMS should enable a dashboard view of total number of end users whom are 30/60/90+ days since last payment. Access to the user's data contained within these views should be easily accessible and exportable for use by EC-SBU including total paid, date of last payment, name and contact details including address/GPS co- ordinate.
Data Access	Global data of both LMS and Loading Machine software should be exportable to CSV or other file type importable to MS Excel - minimum data to be exported should be all MC data, all loading transaction data and all SHS asset data. Should not all be available within the LMS normal operation, a letter from the software provided should be provided committing that this data can be made available upon request at any time and at no cost to EC-SBUs in the format outlined previously should be provided.
Receipt Printing	The Loading Machine must provide for a printed paper receipt. Providing an SMS token and receipt can be provided as an option but not as the sole method of receipt.
Re-issuing Load/Token	The method of token transfer should be repeatable from the Loading Machine to the MC prepayment controller, whereby should a token be lost or a wireless transfer failed - the Loading Machine may recall the last token provided to MC and re-issue to MC. This should remain a 1 time use code, so in the case of fraudulent claim of lost load/token from MC, the re-issued token should not provide additional load to the prepayment controller if the re-issued token was previously successfully loaded to the prepayment controller. Any re-issue of token should not affect the remaining balance/credit of the Loading Machine.
Software Guarantee	All software provided, whether it be propriety or 3rd party software, ongoing use of the software for the life of the system must be guaranteed—of no additional cost to the Procuring Entity to that of the upfront cost of the hardware <i>A Certification from the Supplier must be</i>

	<p><i>submitted to the Electric Cooperative during the Post Qualification for this effect.</i></p> <p>The Supplier shall commit A written commitment to this effect shall be provided in the Bid Submission.</p>
API access	The Loading Management Software must be provided with an API (application programming interface) to allow access to minimum data as described above under “Data Access” for connection to the Procuring Entity’s database software. Should this not be immediately available, the software provider must provide a written commitment to integrate future API access in the future at no cost to the Procuring Entity.

Table 11: Loading Machine and LMS Requirements
Minimum Specifications

1. Prepayment Controller

Particulars	Parameter
Offline of Online Credit Validation	Offline/Online Cloud Based
Prepayment Unit Integrated to Charge Controller	Required
Type of Credit Transfer	Keypad/RFID/Other wireless (GSM accepted only in combination with offline method)
Credit Designation	Days Only (if kWh included, should be disabled)
Display of credit days available	Numeric
Status of loads during 0 days credit	Disconnected
Status of solar charging during 0 days credit	Charging
Single token for use on multiple SHS	Not Permitted
Credit recharge effect on existing credit	Accumulate

Table 12: Minimum Prepayment Controller Specifications
2. Loading Machine

Particulars	Parameter
Offline or Online Credit Creation	Offline/Online Cloud Based
Record Payment Records	Required
Type of Credit Transfer	RFID/ numeric token
Credit designation	Input as Pesos and automatically converted to Days Only (if kWh included, should be disabled)
Maximum credit creation per transaction	Default 30days & settable to any value by LMS only

Minimum credit creation per transaction	3days & settable to any value by LMS only
Offer User Management features	Required
SHS Management features	Repossess/ Replace/ Faulty
Dashboard or lookup values	Required
Syncing of data to LMS	Offline and Online cloud based
Portable or Fixed	Portable Only
Power Source	Internal Battery
Agent/Loading Machine Credit Limit Restrictions	Peso (Automatically converted to days)

Table 13: Minimum Loading Machine Specifications

3. Loading Management Software

Particulars	Parameter
Offline or Online Operation	Offline/Online Cloud Based
Offer User Management features	Required
SHS Management features	Repossess/ Replace
Dashboard or lookup values	Required
Syncing of Loading Machine data to LMS	Offline and Online cloud based
Portable or Fixed	Suitable for access from MS Windows7 onwards (optional access from mobile OS)
Payment Reconciliation of Agent/End User Cash	Required
Setting of Loading Machine/Agent Credit Limits	Required and option to set remotely
Asset Management of SHS (location, status)	Required
Agent/Loading Machine credit limit restriction	Peso (automatically converted to Days)
Online FAQ and Help Guide	Required

Table 14: Minimum LMS Specifications

8. Lamps and LED Lights

Certification requirements

All lanterns that are tested and found compliant with Lighting Global standard are acceptable so long as they provide the type of light service required (desk or ambient, lumen output and duration hours), as per the full General Requirements, in which case no further certifications are required.

Compulsory certifications

The generally applicable standards for LED luminaires and integrated LED lamps are Illumination Engineering Society's (IES). All LEDs used shall comply with these requirements:

IES-LM-79-19: Approved method for electrical and photometric measurements for solid-state lighting products

Lamps that do not have Lighting Global compliance certification should be supported by documentation or certificate of the following, that they provide the type of light service required (desk or ambient, lumen output and duration hours):

- Certificate stating that luminaires comply with General Requirements, as well as providing test results for light output.
- Confirmation that LED lights are constructed using LM-79-certified LED chips and drivers, as well as providing the required LM certificates.

General requirements

Lights, Lamps and Lighting fixtures are to meet the following requirements:

- a. Each lamp shall be made of high efficiency LEDs with an efficiency of at least 90 lm/W. Each lamp shall have a minimum of 100lm with a wide light distribution angle.
- b. Light points are expected to be 100lm - 200lm - 300lm. 2 or 3 lamps of 100lm each can alternatively be provided instead of lamps of respectively 200 or 300lm. If a diffuser is included, the cover should be dismountable to remove dust and insects.
- c. Color of LED light shall be white.
- d. Lamps should have a way for attaching safely to ceiling or wall.

Additional information required:

- Product brochure;
- LED brand used, model number, and certification;
- Nominal voltage range; and
- Color temperature.

9. Bundled Appliances

The Bidder shall include for each solar package the following bundled appliances as part of the procurement:

- a. **Phone Charger:** Minimum one USB adaptor for mobile phone charging (5V)

General Requirements

The solar charge controller should have provision for USB outlet. Therefore, the only requirement on provision of mobile phone charger is a 5-1 cable adapter as shown in Diagram 2 below. Provision of “cigarette” style adapters is not permitted, due to the large array of heavy loads that can easily be used with this type of adapter.

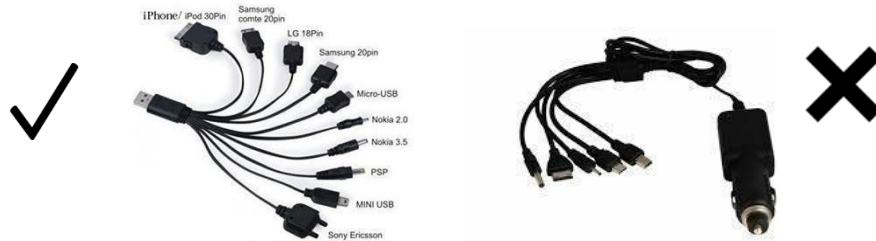


Diagram 2: **Accepted Phone Charger type (L) and not accepted Phone Charger type**

Minimum Specifications

Particulars	Parameter
Type of port connection accepted	USB
USB Port minimum specification	5V 1A
USB Port maximum specification	5V2.1A
Min. number of phone types supported	5
Required phone adapter types:	Micro USB
	Mini USB
	Nokia Type

Table 15: Minimum USB Adapter Specifications

b. **Radio: One AM/FM radio** (independent with an internal battery).

General Requirements

The radio should have access to power for portability and not integrated into the SHS device.

Minimum Specifications

Particulars	Parameter
Minimum Autonomous Runtime (at 50% volume, radio function)	5hrs
Minimum Speaker Size	3W 4ohm
Required bands	AM & FM

Table 16: Minimum Radio Specifications

- c. **Torch Lamp: One torch lamp** of minimum 50 Lumen and with a minimum autonomy of 5 hours.

General Requirements

The torch shall be a rechargeable type with its own internal replaceable battery. The torch should be recharged from the USB port(s) and not from the lighting output ports. The internal battery should be sized to meet the following:

Minimum Specifications

Particulars	Parameter
Type of port connection accepted	USB
Minimum Autonomous Runtime (full brightness)	5hrs
Minimum lumen output	50lms
Colour Temperature Range	10-15,000K
Maximum Energy Capacity of Battery	5Wh

Table 17: Minimum Torch Specifications

10. Television Option

A DC LED TV is not required to be supplied as a part of the package (not evaluated in the basic offer), however the Bidder should submit a proposed TV option as part of their Bidding Documents.

The SUPPLIER must indicate if they are interested to do business alone or in joint venture with the EC SBU, wherein they might sell, lease or rent these TVs to the MCs – possibly in joint venture with the EC-SBU, a microfinance company or other third party. There is also potential to use the prepayment system being procured for instalment purchase of TVs subject to the ECs agreement

General Requirements

A colour LED TV meeting Global Leap Certification requirements and provision in the SHS device should be made for an output port dedicated to the TV rated to carrying the maximum load requirement of the TV.

Minimum Specification

Particulars	Parameter
Colour TV Voltage Range	10 - 16V
Maximum Power (LED backlight OFF)	9W
Maximum Standby Power	0.5W
Minimum Screen Size	15.6"
Built in Tuner & Antenna	Analog
Built in Speaker	Required
Available built in ports	USB / SD /Audio / Video
Remote Control	Required
Compliance	RoHS /CE
Operators Manuals (TV/Remote)	Required
DC Cable Length	5m
DC Cable Minimum XSA	0.75mm ²
Compatible Connector with SHS Port	Required

Table 18: *Minimum DC TV Specifications*

11. Cabling, Wiring and Switches

Stranded and flexible insulated copper wiring shall be used. Cables used for wiring shall have three years of warranty.

- a. DC solar PV module cable:

Flexible (class 5 or 6) multi-strand copper conductor, with 2 conductors in duplex configuration in flexible UV resistant sheath with polarity indication. Minimum 2.5mm² cross sectional area (XSA) conductor for 50Wp of minimum length 8m. Maximum permissible voltage drop over the length of the cable is 2%.

Should the Manufacturer find that the PV module cable type cannot fit their connector type, provision is made for a short 1m cable of 2.5mm² XSA to be joined to the cable end for final connection.

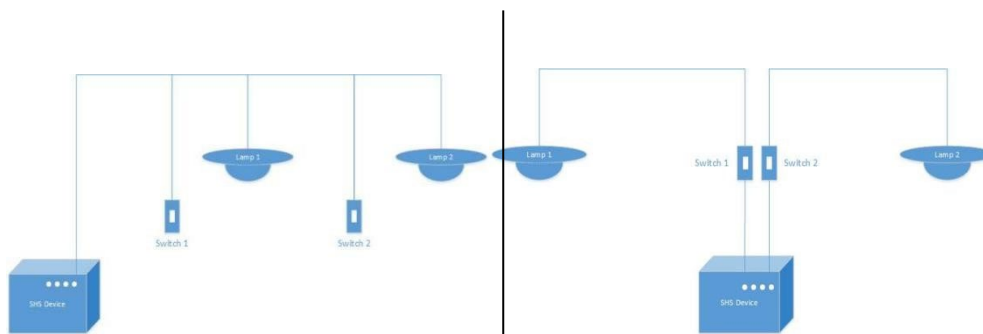
b. DC cables from Charge Controller to DC light switch:

Flexible (class 5 or 6) multi-strand copper conductor, with 2 conductors in flexible polyvinyl chloride (PVC) sheath, with polarity indication. Minimum 0.5mm² cross sectional area (XSA) conductor up to maximum 25m with all lighting loads if daisy chain. Should the total wiring loom length (including that to switches) be greater than 30m, then minimum 1.0mm² cross sectional area (XSA) conductor is required up to 50m. The minimum distance from either SHS central device to light point is 5m or from light point to light point of 5m. Maximum permissible voltage drop over the length of cable is 2%.

The Manufacturer may provide one of two options (or both) for wiring & switching:

- i. "Daisy-chain" wiring loom connection to multiple light points, then each lamp shall have its own switch on the same loom and no more than 2 lamps per daisy-chain in the event of cable/connector failure;
- ii. Parallel cables from the SHS device, with each having its own input plug on the SHS device and own switch to the lamp.

Either a daisy chain or "series" wiring loom for higher quality and more functional installations can be provided, similar as shown in Figure 6. However, Bids with both will also be considered. Where a specification is given for a cable length, if in daisy-chain configuration - the length is specified as the total length of all daisy-chain cables from the central SHS device connection to LAMP1, followed by distance from the LAMP1 to LAMP2 and so on.



Daisy-chain' connection (left) and 'parallel' connection (right)

Switches shall be pre-assembled to the cable, controlling on/off switching from the central SHS device is not acceptable. Dimming switches are not accepted in the SHS design.

Minimum DC Cable Specifications

Particulars	Parameter
Solar PV Module	
Solar PV Module Cable Length (min)	8m
Solar PV Module Cable XSA	2.5mm ²
Maximum permissible voltage drop (including connectors)	2%
UV rated cable ties to suit outdoor cable	min 10pcs per cable
Other DC Cable	
LAMP1 DC Cables LED Lamps Length	5m
LAMP2 DC Cables LED Lamps Length	5m
DC Cables to LED Lamps XSA up to 25m	min 0.5mm ²
DC Cables to LED Lamps XSA 25m up to 50m	min 1.0mm ²
Maximum permissible voltage drop	3%
Length from SHS Device to Switch (parallel)	1m
Length from wiring loom to Switch (daisy chain/series)	min 1m
Cable clips to suit internal DC cables	min 1pcs per 0.3m of cable
DC Cable Switches	
Minimum Life Cycle	20,000

12. Cable Connectors

Field connections shall be snap connectors for joining ‘play & play’ cables using polarity-protected plugs. Approved plugs/sockets include:

- a. Co-axial power connectors 5.5mm OD, 2.1mm pin rated
- b. SAE connector.

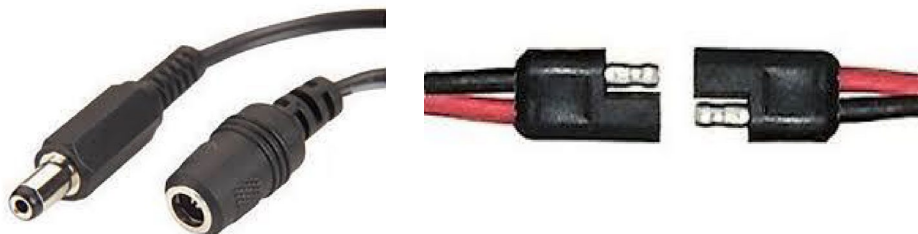


Diagram 3: Approved co-axial plug/socket (let) and SAE connector (right)

13. Toolbox

The Bidder shall provide at least five (5) electrical toolboxes and two (2) units of GPS per EC with other necessary tools for EC Technicians to troubleshoot, repair, and replace main components such as panel, battery,

charge controller, and lamp. No particular specifications are required for GPS device, but it must be functional. The toolbox shall contain at least the following items:

- 1 set Jewelers' screw driver
- 1pc. Philip screw driver
- 1pc. Slotted (-) screw driver
- 1pc. Side Cutter
- 1pc. Long Nose plier
- 1pc. Alligator/Square Jaw plier
- 1pc. Digital multi-meter 0-10A_{DC}/1-200V_{DC} with fuse protection (10A)
- 1pc. Gas/Butane Solder
- 1pc. Magnifying Glass
- 1pc. Rechargeable LED Flashlight
- 1pc. Robust Toolbox
- 1 pc. Hammer
- 1pc. Compass
- 1pc. Hacksaw
- 1pc. Strap Tensioner

The Bidder shall also include any other special tools required for right manipulations of the solar packages by the EC Technicians, e.g. adapted tool for tamperproof screws.

14. OTHER ACCESSORIES

The SUPPLIER shall include all necessary accessories for supporting or fixing components (module, battery box, appliances, switches, cable ties, etc.) during installation.

You may refer to the attached Terms of Reference for the full technical specifications.

***Section VIII. Checklist of Technical and
Financial Documents***

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class "A" Documents

Legal Documents

- (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages) **in accordance with Section 8.5.2 of the IRR; and**
 - a.1. Registration Certificate; **and**
 - a.2. Mayor's/Business Permit or its Equivalent Document; **and**
 - a.3. Tax Clearance.

Technical Documents

- (b) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; **and**
- (c) Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided for in Sections 23.4.1.3 and 23.4.2.4 of the 2016 revised IRR of RA No. 9184, within the relevant period as provided in the Bidding Documents; **and**
- (d) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission **or** Original copy of Notarized Bid Securing Declaration; **and**
- (e) Conformity with the Technical Specifications, which may include production/delivery schedule, manpower requirements, and/or after-sales/parts, if applicable; **and**
- (f) Original duly signed Omnibus Sworn Statement (OSS) **and** if applicable, Original Notarized Secretary's Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder.

Financial Documents

- (g) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC) **or** A committed Line of Credit from a Universal or Commercial Bank in lieu of its NFCC computation.

Class "B" Documents

- (h) If applicable, a duly signed joint venture agreement (JVA) in case the joint venture is already in existence **or** duly notarized statements from all the

potential joint venture partners stating that they will enter into and abide by the provisions of the JVA in the instance that the bid is successful.

II. FINANCIAL COMPONENT ENVELOPE

- (i) Original of duly signed and accomplished Financial Bid Form; **and**
- (j) Original of duly signed and accomplished Price Schedule(s).

Other documentary requirements under RA No. 9184 (as applicable)

- (k) *[For foreign bidders claiming by reason of their country's extension of reciprocal rights to Filipinos]* Certification from the relevant government office of their country stating that Filipinos are allowed to participate in government procurement activities for the same item or product.
- (l) Certification from the DTI if the Bidder claims preference as a Domestic Bidder or Domestic Entity.

Section IX. Forms

**Statement of all Ongoing Government and Private Contracts Including
Contracts Awarded but not yet Started**
[shall be submitted with the Bid]

Business Name : _____
Business Address : _____

Name of Client/Contract Person/Contact Number/Contact Email Address	Date of Contract	Title of the Contract/Name of the Project	Kinds of Goods	Total Amount of Contract	Value of Outstanding Contract	Date of Delivery
<u>Government:</u>						
<u>Private:</u>						

Note: This statement shall be supported with: Notice of Award, Contract, NTP, and other docs, if necessary.

Submitted by : _____
(Printed Name and Signature)
Designation : _____
Date : _____

Statement of Single Largest Completed Contract which is Similar in Nature

[shall be submitted with the Bid]

Business Name : _____
 Business Address : _____

Name of Client/Contract Person/Contact Number/Contact Email Address	Date of Contract	Title of the Contract /Name of the Project	Kinds of Goods	Amount of Contract	Date of Acceptance	End-User's Acceptance or Official Receipt(s) Issued for the Contract

Note: This statement shall be supported with: Notice of Award, Contract, NTP, and other docs, if necessary.

Submitted by : _____
 (Printed Name and Signature)

Designation : _____
 Date : _____

Bid Securing Declaration Form

[shall be submitted with the Bid if bidder opts to provide this form of bid security]

REPUBLIC OF THE PHILIPPINES)
CITY OF _____) S.S.

BID SECURING DECLARATION

Project Identification No.: *[Insert number]*

To: *[Insert name and address of the Procuring Entity]*

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid Securing Declaration.
2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of the written demand by the procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Sections 23.1(b), 34.2, 40.1 and 69.1, except 69.1(f), of the IRR of RA No. 9184; without prejudice to other legal action the government may undertake.
3. I/We understand that this Bid Securing Declaration shall cease to be valid on the following circumstances:
 - a. Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
 - b. I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right; and
 - c. I am/we are declared the bidder with the Lowest Calculated Responsive Bid, and I/we have furnished the performance security and signed the Contract.

IN WITNESS WHEREOF, I/We have hereunto set my/our hand/s this ____ day of *[month]* *[year]* at *[place of execution]*.

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]

[Insert signatory's legal capacity]

Affiant

[Jurat]

[Format shall be based on the latest Rules on Notarial Practice]

Omnibus Sworn Statement (Revised)

[shall be submitted with the Bid]

REPUBLIC OF THE PHILIPPINES)
CITY/MUNICIPALITY OF _____) S.S.

AFFIDAVIT

I, [Name of Affiant], of legal age, [Civil Status], [Nationality], and residing at [Address of Affiant], after having been duly sworn in accordance with law, do hereby depose and state that:

1. *[Select one, delete the other:]*
[If a sole proprietorship:] I am the sole proprietor or authorized representative of [Name of Bidder] with office address at [address of Bidder];
[If a partnership, corporation, cooperative, or joint venture:] I am the duly authorized and designated representative of [Name of Bidder] with office address at [address of Bidder];
2. *[Select one, delete the other:]*
[If a sole proprietorship:] As the owner and sole proprietor, or authorized representative of [Name of Bidder], I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached duly notarized Special Power of Attorney;
[If a partnership, corporation, cooperative, or joint venture:] I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached [state title of attached document showing proof of authorization (e.g., duly notarized Secretary's Certificate, Board/Partnership Resolution, or Special Power of Attorney, whichever is applicable)];
3. [Name of Bidder] is not "blacklisted" or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board, **by itself or by relation, membership, association, affiliation, or controlling interest with another blacklisted person or entity as defined and provided for in the Uniform Guidelines on Blacklisting;**
4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;
5. [Name of Bidder] is authorizing the Head of the Procuring Entity or its duly authorized representative(s) to verify all the documents submitted;
6. *[Select one, delete the rest:]*
[If a sole proprietorship:] The owner or sole proprietor is not related to the Head of the Procuring Entity, Procurement Agent if engaged, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

[If a partnership or cooperative:] None of the officers and members of *[Name of Bidder]* is related to the Head of the Procuring Entity, Procurement Agent if engaged, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

[If a corporation or joint venture:] None of the officers, directors, and controlling stockholders of *[Name of Bidder]* is related to the Head of the Procuring Entity, Procurement Agent if engaged, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

7. *[Name of Bidder]* complies with existing labor laws and standards; and
8. *[Name of Bidder]* is aware of and has undertaken the responsibilities as a Bidder in compliance with the Philippine Bidding Documents, which includes:
 - a. Carefully examining all of the Bidding Documents;
 - b. Acknowledging all conditions, local or otherwise, affecting the implementation of the Contract;
 - c. Making an estimate of the facilities available and needed for the contract to be bid, if any; and
 - d. Inquiring or securing Supplemental/Bid Bulletin(s) issued for the *[Name of the Project]*.
9. *[Name of Bidder]* did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.
10. **In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.**

IN WITNESS WHEREOF, I have hereunto set my hand this ___ day of ___, 20__ at _____, Philippines.

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]

[Insert signatory's legal capacity]

Affiant

[Jurat]

[Format shall be based on the latest Rules on Notarial Practice]

Price Schedule for Goods Offered from Within the Philippines
[shall be submitted with the Bid if bidder is offering goods from within the Philippines]

For Goods Offered from Within the Philippines

Name of Bidder _____ Project ID No. _____ Page ___ of ___

1	2	3	4	5	6	7	8	9	10
Item	Description	Country of origin	Quantity	Unit price EXW per item	Transportation and all other costs incidental to delivery, per item	Sales and other taxes payable if Contract is awarded, per item	Cost of Incidental Services, if applicable, per item	Total Price, per unit (col 5+6+7+8)	Total Price delivered Final Destination (col 9) x (col 4)

Name: _____

Legal Capacity: _____

Signature: _____

Duly authorized to sign the Bid for and behalf of: _____

Price Schedule for Goods Offered from Abroad
[shall be submitted with the Bid if bidder is offering goods from Abroad]

For Goods Offered from Abroad

Name of Bidder _____ Project ID No. _____ Page ___ of ___

1	2	3	4	5	6	7	8	9
<i>Item</i>	<i>Description</i>	<i>Country of origin</i>	<i>Quantity</i>	<i>Unit price c.i.f. port of entry (specify port or c.i.f. named place (specify border point or place of destination))</i>	<i>Total c.i.f. or c.i.f. price per item (col. 4 x 5)</i>	<i>Unit Price Delivered Duty Unpaid (DDU)</i>	<i>Unit price Delivered Duty Paid (DDP)</i>	<i>Total Price delivered DDP (col 4 x 8)</i>

Name: _____

Legal Capacity: _____

Signature: _____

Duly authorized to sign the Bid for and behalf of: _____

Bid Form for the Procurement of Goods

[shall be submitted with the Bid]

BID FORM

Date : _____
Project Identification No. : _____

To: *[name and address of Procuring Entity]*

Having examined the Philippine Bidding Documents (PBDs) including the Supplemental or Bid Bulletin Numbers *[insert numbers]*, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to *[supply/deliver/perform]* *[description of the Goods]* in conformity with the said PBDs for the sum of *[total Bid amount in words and figures]* or the total calculated bid price, as evaluated and corrected for computational errors, and other bid modifications in accordance with the Price Schedules attached herewith and made part of this Bid. The total bid price includes the cost of all taxes, such as, but not limited to: *[specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties]*, which are itemized herein or in the Price Schedules,

If our Bid is accepted, we undertake:

- a. to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements of the Philippine Bidding Documents (PBDs);
- b. to provide a performance security in the form, amounts, and within the times prescribed in the PBDs;
- c. to abide by the Bid Validity Period specified in the PBDs and it shall remain binding upon us at any time before the expiration of that period.

[Insert this paragraph if Foreign-Assisted Project with the Development Partner:

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

Name and address of agent	Amount	Purpose of Commission or gratuity
---------------------------	--------	-----------------------------------

(if none, state "None")]

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your Notice of Award, shall be binding upon us.

We understand that you are not bound to accept the Lowest Calculated Bid or any Bid you may receive.

We certify/confirm that we comply with the eligibility requirements pursuant to the PBDs.

The undersigned is authorized to submit the bid on behalf of *[name of the bidder]* as evidenced by the attached *[state the written authority]*.

We acknowledge that failure to sign each and every page of this Bid Form, including the attached Schedule of Prices, shall be a ground for the rejection of our bid.

Name: _____

Legal capacity: _____

Signature: _____

Duly authorized to sign the Bid for and behalf of: _____

Date: _____

Contract Agreement Form for the Procurement of Goods (Revised)
[Not required to be submitted with the Bid, but it shall be submitted within ten (10) days after receiving the Notice of Award]

CONTRACT AGREEMENT

THIS AGREEMENT made the _____ day of _____ 20____ between [name of PROCURING ENTITY] of the Philippines (hereinafter called “the Entity”) of the one part and [name of Supplier] of [city and country of Supplier] (hereinafter called “the Supplier”) of the other part;

WHEREAS, the Entity invited Bids for certain goods and ancillary services, particularly [brief description of goods and services] and has accepted a Bid by the Supplier for the supply of those goods and services in the sum of [*contract price in words and figures in specified currency*] (hereinafter called “the Contract Price”).

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents as required by the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184 shall be deemed to form and be read and construed as integral part of this Agreement, *viz.*:
 - i. Philippine Bidding Documents (PBDs);
 - i. Schedule of Requirements;
 - ii. Technical Specifications;
 - iii. General and Special Conditions of Contract; and
 - iv. Supplemental or Bid Bulletins, if any
 - ii. Winning bidder’s bid, including the Eligibility requirements, Technical and Financial Proposals, and all other documents or statements submitted;

Bid form, including all the documents/statements contained in the Bidder’s bidding envelopes, as annexes, and all other documents submitted (*e.g.*, Bidder’s response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity’s bid evaluation;
 - iii. Performance Security;
 - iv. Notice of Award of Contract; and the Bidder’s conforme thereto; and
 - v. Other contract documents that may be required by existing laws and/or the Procuring Entity concerned in the PBDs. **Winning bidder agrees that additional contract documents or information prescribed by the GPPB that are subsequently required for submission after the contract execution, such as the Notice to Proceed, Variation Orders, and Warranty Security, shall likewise form part of the Contract.**

3. In consideration for the sum of *[total contract price in words and figures]* or such other sums as may be ascertained, *[Named of the bidder]* agrees to *[state the object of the contract]* in accordance with his/her/its Bid.
4. The *[Name of the procuring entity]* agrees to pay the above-mentioned sum in accordance with the terms of the Bidding.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of the Republic of the Philippines on the day and year first above written.

[Insert Name and Signature]

[Insert Name and Signature]

[Insert Signatory's Legal Capacity]

[Insert Signatory's Legal Capacity]

for:

for:

[Insert Procuring Entity]

[Insert Name of Supplier]

Acknowledgment

[Format shall be based on the latest Rules on Notarial Practice]

