

**DESIGN, SUPPLY, INSTALLATION AND
COMMISSIONING OF SOLAR-
POWERED ICE MAKING FACILITY IN
GLAN SARANGANI**

(NEA-IB No. 2021-03 EU-ASEP)

**Under the
Integration of Productive Uses of Renewable Energy for
Sustainable and Inclusive Energization in Mindanao
(IPURE MINDANAO Project)**

TERM OF REFERENCE

1. INFORMATION ON TENDER AND PROJECT AREA

1.1 Background

The Integration of Productive Uses of Renewable Energy for Inclusive and Sustainable Energization in Mindanao or I-PURE Mindanao Project is a cooperation between the National Electrification Administration (NEA) and the Mindanao Development Authority (MiNDA) with grant funding from the European Union through the Access to Sustainable Energy Programme (EU-ASEP).

The overall objective of the Action is to bring about inclusive and sustainable social and economic development to the sites through improved livelihood activities and sustainable access to energy through renewable energy solutions. Aligned to this objective, the central precept to the selection of the activities and sites for the proposed Action is the shift from the traditional practices of deploying renewable energy technologies for stand-alone household energy applications (lighting, radio, others) to a solution that combines renewable energy solutions for livelihood activities and household energization.

I-PURE Mindanao Project has two major component

Component 1: Productive Uses of Renewable Energy (PURE)

Component 1 of the Project will introduce and implement PURE technologies in 10 Municipalities that will be used to produce high value AF&F products that will demand higher prices in the market thereby improving the income of the target families.

Component 2: Sustainable Energization

The key implementing partners are National Electrification Administration (NEA) as lead applicant, Mindanao Development Authority (MinDA) as co-applicant, and electric cooperatives which includes COTELCO, SOCOTECO II, SUKELCO, TAWELCO, and local government units (LGUs), community based organizations (CBOs) and academes in North Cotabato, Sarangani, Sultan Kudarat, Lanao Del Sur and Tawi-Tawi as associates.

1.2 Objective

This Terms of Reference is developed to identify a contracting partner for the ***DESIGN, SUPPLY, INSTALLATION AND COMMISSIONING OF SOLAR-POWERED SOLAR-POWERED ICE MAKING FACILITY IN GLAN, SARANGANI.***

These installations will be a showcase set-up whereby aesthetic value and quality have to be aligned to the overall project objectives. The project shall serve as a model for other remote, un-electrified areas in the Philippines and a model for other electric cooperatives and private entities in the country to implement electrification projects integrated with productive uses, delivery of social welfare and water supply. The sustainability and replicability of the project will be given due consideration. This implementation exercise will provide the framework for linking energy supply programmes with operational programmes for agriculture and rural development and provide data for national level resource allocations and policy guidelines for the rural energy sector.

1.3 Project Duration

The overall time schedule for the activities to be undertaken is included in Annex 1 of this document. This unit establishment is expected to be commissioned and operational by July 2022. Training for the local operating team will be implemented for the subsequent three months. Upon completion of training, project handover is scheduled for October 2022.

The liquidated damages shall be imposed for the inability of the CONTRACTOR to comply with the Approved Delivery Schedule, unless a written request for time extension been approved in writing by NEA.

1.4 Location of the Project

Brgy, Balutaki, Glan Sarangani

1.5 Approved Budget for the Contract (ABC)

For and in consideration of the performance and accomplishment of the **DESIGN, SUPPLY, INSTALLATION AND COMMISSIONING OF SOLAR-POWERED ICE MAKING FACILITY IN GLAN, SARANGANI**

NEA shall pay the CONTRACTOR the total amount of **Twenty-two Million Five Hundred Two Thousand Six Hundred Ten Only (Php 22,502,610.00)** subject to pertinent laws on government contracts and auditing procedures.

The contract price is inclusive of all duties and taxes. No changes shall be made on the Contract Price by reason of escalation in currency.

1.5 General Considerations

1.5.1 Storage, warehousing and Operational community facilities

Before the delivery and installation of the equipment/goods in the project site/s (on-site), it is suggested that the Contractor must coordinate closely with the Contracting Authority and Beneficiary Organization/s for the transport and storage of equipment/goods.

It is also imperative that the Contractor have already secured on-site storage/warehousing facility prior to the delivery of goods or has already coordinated with the Beneficiary Organization for the storage of the supplied equipment/goods in the existing processing facility of the Beneficiary Organization/s.

Once the goods/equipment have securely reached the project sites, the overall responsibility for the security of all inventory/goods will lie with the Supplier.

The Contractor will also be responsible for arrangement of sleeping and other facilities for their installation technicians on the project site. The Contractor shall ensure that all staff respect the local customs of affected communities and comply with local government laws when interacting with stakeholders.

1.5.2 Vehicles and transportation

The Contractor will be responsible for the supply and provision of all transportation needs for transferring the equipment/goods from the area of origin or port to the project site/s (on-site). This may require different modes of transport including 2WD, 4WD, trucks and/or all-terrain vehicles (ATVs).

1.5.3 Health and Safety Requirements

The Contractor shall take note where all local clinics and hospitals are located in case of an emergency. The Contractor shall send/inform the Project, the details of any accident as soon as practicable within three (3) days after its occurrence. The Contractor shall maintain records and reports concerning health, safety and welfare of persons, and damage to property.

The Contractor is required to include a Safety Plan meeting the following requirements:

- Compliance with all applicable safety regulations;
- Safety of all persons authorized to be on Installing within the Project Areas; and
- Use reasonable efforts to keep the Site and Works clear of unnecessary obstruction to avoid danger to these persons

A Safety Engineer or Officer shall be present at all time during the project execution.

The Contractor shall at all times take the necessary precautions to protect its Personnel employed on Site from insect and pest nuisance, and to reduce the danger to their health. The Supplier shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.

The Contractor is responsible for the prevention of the spread of Covid-19 at the Project Sites. It is recommended that all workers are tested before and leaving the project sites. All covid test costs shall be shouldered by the Contractor.

1.5.4 Labor Laws

The Contractor shall comply with all the relevant Labor Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall grant them all their legal rights. The Supplier shall require his employees to obey all applicable Laws, including those concerning safety at work.

1.5.5 Contractor's Personnel

The Contractor's Personnel, including its JV partner/s for the system installation or other related services, shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Contracting Authority (NEA) may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who:

- 1) persists in any misconduct or lack of care,
- 2) carries out their duties incompetently or negligently,
- 3) fails to conform with any provisions of the Contract, or
- 4) persists in any conduct which is prejudicial to the safety, health or the protection of the environment.

If appropriate, the Contractor shall then appoint a suitable replacement.

1.5.6 Foreign personnel

The Contractor may bring in to the Country any foreign personnel who are necessary for the execution of the installation to the extent allowed by the applicable Laws. The Contractor shall ensure that these personnel are provided with the required visas and work permits.

The Contractor shall be responsible for the return of these personnel to the place where they were recruited or to their domicile. In the event of the death in the Country of any of these personnel or members of their families, the Contractor shall similarly be responsible for making the appropriate arrangements for their return or burial.

1.5.7 Supplier Safeguards Obligations

The contractor shall ensure that all staff comply with associated safeguards procedures outlined in the project's Environmental and Social Safeguards Framework (ESSF) in accordance with EU Policy guidance on Environmental Assessment, Involuntary Resettlement, and Indigenous Peoples and Philippine National laws (PD 1586) or the EIS System, (DAO No. 2003-30) Implementing the IRR for the Philippines EIS System and its Procedural Manual, RA 6969 and 9003, as prepared by DENR. In line with the ASEP environmental and social safeguards, the project should meet the following:

1) The Contractor/Supplier should follow the Environmental Management Plan (EMP) during construction and operation of the project. The EMP consists of mitigation measures to solve possible adverse impacts and monitoring compliance. Mitigation measures to follow include:

- a) Setting up of temporary disposal units within the construction area and properly dispose generated wastes.
- b) Contractor and workers observe proper housekeeping, sanitation and waste minimization.
- c) Activities should only be done during the day to avoid noise.
- d) Refer to RA 6969 for accidental release of pollutants to soil and/or groundwater.
- e) Preparation and conduct of decommissioning plans, including proposed disposal methods, recycling opportunities and collection.
- f) Properly dispose used chemicals.

2) The Contractor should observe the Environmental Codes of Practice (ECoP) for solar energy development by due diligence during procurement, and construction / installation of facilities.

3) In procuring, consider type of PV cells manufactured. Take note of toxicity and health hazards posed by chemical substances used in the PV manufacturing process (e.g. phosphine used in amorphous silicon cells is very toxic and poses a severe fire hazard through spontaneous chemical reaction.).

4) In sourcing out the PV cells and other solar components, consider manufacturer's experience and its compliance with local, national/and or international laws and regulations concerning toxic and hazardous substances

5) The Contractor shall avoid any damage to properties such as lands, structures, crops, and trees. Should any private assets or public properties be affected, the contractor shall restore or replace such assets/properties or compensate the owners in accordance with the ESSF.

6) The Contractor shall conduct its activities with full respect and consideration of Indigenous Peoples' unique culture and practices. Before entering IP areas, the

Contractor is expected to coordinate with relevant local authorities, i.e., representatives of the National Commission on Indigenous Peoples (NCIP) or leaders of ethnic groups, etc. Indigenous Peoples are mixed within the general populations of the areas targeted, and their rights and cultures must always be respected even though they will be indirect recipients of the installed system.

I.5.3 Electricity and water

No electricity supply is available on site and Contractor is required to take care of own energy needs. Contractor may not assume to use any existing diesel generators used for water pumping on site, without prior arrangement with the LGUs, in writing

2. Scope of Work and Deliverables

2.1 Scope of Contract

The scope under this Terms of Reference is the **DESIGN, SUPPLY, INSTALLATION, AND COMMISSIONING, ON A TURNKEY BASIS**, of the following:

SOLAR-POWERED ICE MAKING FACILITY AND GRID-CONNECTED SOLAR PV SYSTEM IN GLAN SARANGANI

2.2 Project Components

Design, Supply, Installation, and Commissioning with the following components:

A. Ice Maker System <ul style="list-style-type: none">• 5T/day Commercial Flake Ice Maker with Ice Storage• Seawater Reverse Osmosis Water Desalination Machine
B. Grid-Connected Solar PV System <ul style="list-style-type: none">• 150kWp Solar Array (Ground-mounted)• PV System Mounting System package• Inverter and Energy Management System• Control System• Balance of System• Monitoring and Data Retrieval System• Powerhouse/Substation
C. Civil Works <ul style="list-style-type: none">• Ice Maker Housing Facility with Lighting and Ventilation System• Solar Array Perimeter fence
D. Tools / Toolbox
E. Spare Parts
F. Related Services <ul style="list-style-type: none">• Factory Testing and Pre-Shipment/Delivery Inspection• Engineering Design, Installation, Site inspection/monitoring and documentation• Training for Technical Staff of the Project & Beneficiary Organization/s for the operation, management and maintenance (OM&M) of PURE system/s• Equipment and component service warranties• Detailed OM&M Manuals for each appropriate unit of the supplied Goods;

2.3 Project Deliverables

The tasks to be covered and the expected results are summarized in the following table:

Task List	Expected Results	Venue
System Concept	<ol style="list-style-type: none"> i. Bill of Quantities (BOQ) Form 1.2 ii. (Form No.2. Detailed Explanation on Technical Proposal) Technical proposal of approach and method statement that will include: <ul style="list-style-type: none"> • Work Organization • Method Statement • Mobilization Schedule • Installation Schedule • Personnel • Equipment • Training Experience & Method iii. Technical Data Sheets containing specifications of the components of the system to be installed: solar pv modules, water pump system, irrigation system, filtration system for potable water iv. Manufacturer's general data and illustrated catalogues and brochures v. Manufacturer's Sample Test Certificates of the solar PV modules, motor pumps, and inverters to be supplied, among others, the guaranteed capacity (output) and efficiency. vi. Manufacturer's Certificate on the Average Service Life of the solar PV modules and motor pumps to be supplied vii. Construction Plan and Cash Flow Requirement viii. Detailed Gantt Chart for construction in line with the general time schedule found in Annex 1. ix. Visual Mock-up of the Proposed Facility 	Part of Technical Submission during bidding
System Design	<ol style="list-style-type: none"> i. Detailed System Configuration ii. Schematic Diagram of the proposed solar PV and water pumps system iii. Engineering Drawings including Electrical and Mechanical Systems, Civil/Structural Design; Instrumentation & Control / Communication Design iv. Design and detailed layout of the SPV modules and their mounting in the array structures v. Creative works vi. Facility layout 	Submitted to and approved by the I-PURE Technical Working Group

	vii. Management, communication and controls of the system	
System Installation	i. Fully functional establishment complied with all safety and regulatory standards. ii. Installation follows the approved layout and visual mock up.	On-site
Testing and Commissioning	i. Testing and commissioning protocol and report ii. Test and Inspection Certificates and Report iii. Project Completion	Report On site and Document Handover
Handover	i. Certificate of acceptance signed by the NEA and MinDA, the beneficiary and the Contractor ii. Training provided to local operators for 3 months with certification. Trainers should be TESDA Accredited . iii. 5 sets of Complete as-built documents transferred: As-built Plan (e.g. AutoCAD drawings, actual layout, equipment specification), User Manual, Operation and Maintenance Manuals, Troubleshooting Manual, Specification Sheets, Parts List (indicating serial numbers of installed parts), Inventory of fast-moving spare parts iv. Local Service Center, point person and contact details v. List of suppliers and contact details for the tools and spare parts; vi. Documentation of the implementation of the project (audio visual presentation and written documentation)	On-site or LGU/Office
Periodical Reporting	Written Progress Report to the I-PURE Project Steering Committee on a weekly basis and consolidated monthly, which include: a) Progress versus timeline b) Milestone reports c) Highlighting issues that potentially affect the project delivery and mitigation plan d) Financial report – interim and final	Meeting and/or Audio conference with visual aid and soft-copy document submission to NEA and MinDA.

2.4 Permits and requirements

The acquisition of building and electrical construction permits from the local government shall be the responsibility of the Contractor and shall designate a liaison officer for this purpose. MinDA and the local government unit will provide assistance in this regard.

2.5 Shipment of Goods

Customs clearance, permits, inspection of good on arrival, temporary storage and insurance of equipment and materials shall be the responsibility of the Contractor given due support by MinDA as well as local government partners. MiNDA or NEA and the Contractor shall undertake inspection of goods upon arrival at the project sites.

2.6 Testing & Commissioning Requirements

The Contractor shall prepare a commissioning protocol to be approved and signed by the Technical Working Group. Basic measurements and parameters required to analyse the performance of the system systems shall include

- (i) energy produced by all energy sources;
- (ii) frequency and voltage output of the facility; and
- (iii) energy consumed by the load, DC and/or AC
- (iv) equipment performance

Testing and commissioning will be undertaken in the presence of the Technical Working Group, the Electric Cooperatives and the local government unit.

2.7 Training Requirements

The Contractor is to coordinate closely with project partners to implement hands-on training for the owners/operators of the system on its operation and maintenance for three (3) months after conclusion of testing and commissioning. The Contractor should train at least six (6) technicians for the operation and maintenance of the system.

Training manuals and materials must be provided in English (and local language as necessary) and include trouble-shooting manuals, complete as-built drawings and, and manuals of specific parts and materials. The Contractor must also provide standard operating and safety/emergency procedures. The Contractor must also specify the qualifications and skill level requirements of operators of the system.

2.8 Warranty and After-Sales Service

The Contractor shall maintain a Service Center in the project area to serve the support needs of the solar PVP systems. Activities covered under after-installation services are:

- e) Warranty period on quality of workmanship in all parts
- f) Component warranty on key system components
- g) System performance guaranty
- h) Break-down repair services
- i) Spare parts support

The Contractor shall maintain the Service Center on its own or through business partners, at least at Regional level, and preferably within 3 hours travel (300km) from any site. Service Center shall provide adequately skilled and trained staff to perform any maintenance services, repair or component replacements likely to be necessary over the system lifetime, and should carry a stock of spares for any components which are likely to need replacing over the system lifetime.

2.9 Component warranties

The warranties on the individual components for installations shall meet the following requirements: The Contractor shall provide warranty certificates from the Manufacturers for the following equipment:

- (i) A one (1) year warranty for the Ice Making Machine and Storage
- (ii) A one (1) year warranty for the Seawater Desalination Machine
- (iii) A ten (10)-year warranty on the solar PV modules with at least eighty percent (80%) power output guaranteed at 10 (10) years and 25 years expected useful life;
- (iv) A ten (10)-year warranty on the design and installation of solar module racking and mounting supports;
- (v) A five (5) - year warranty on the inverters and MPPT;
- (vi) A two (1) - year warranty on motors and pumps
- (vii) A two (2) –year warranty on transformers
- (viii) A two (2)-year warranty on the structure to withstand wind speed of 200kph
- (ix) A two (2)-year of all major equipment against corrosion due to salt water

Specific Manufacturer Warranties shall be provided signed by an authorized official of the manufacturer with company seal, on the company’s letter with specific reference to this procurement.

Standard/nominal printed documentation without the signed warranty commitment is not acceptable.

Contractor must be able to guarantee the functioning of all parts and electricity production of the installation with a minimum of 3 years from the date of handover.

2.10 Spare Parts and Tools Requirements

The Contractor must include in the Bid Offer/Bill of Quantity spares for parts that may require replacement by normal ‘wear and tear’. Contractor must also provide a set of standard tools prescribed by the manufacturer for each equipment and solar system.

In addition, the Contractor shall submit a list of additional Recommended Spare parts, for all components. The Contractor should not obligate the system owner or other responsible party to order the spares scheduled in the list at the prices stated during or after the contract.

The Contractor must also provide a Certification from the Manufacturer or Distributor that the major parts and services, including spare parts, for the goods offered are available for the next five (5) years within the country.

The Contractor shall make arrangements and provide contact details of a local service center in the Philippines that will efficiently cater to the maintenance, repair, and spare parts requirements of the supplied units during the guarantee period. Any occasionally replaced parts that may significantly hinder the system’s operations, including solar PV modules, should be provided with spares, to avoid delays.

2.11 Rejection of faulty equipment

If, within the first twelve (12) months of the Warranty period, ten percent (10%) of more of any class of equipment fails based on record-keeping tracking tools, the Contracting Authority may, at his sole discretion, have the right to demand the replacement of all of that class of component or material throughout the entire set of equipment supply or tender installations awarded to that Contractor.

2.13 Patent Rights

The Contractor shall indemnify the Contracting Authority and its partners against all third party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof.

4.3 Site Safety and Security

Contractor is expected to ensure the safety and security of personnel and system installations during the contract duration and include anti-theft measures and devices in the equipment to be installed.

4.4 Supervision and reporting Requirements

The Contractor shall prepare weekly status reports and monthly reports to be submitted to the Project Management Unit via email. The final report must be provided to the Project Management Unit along with complete as-built documents in 5 sets of hard copies and electronic copies in a flash drive:

- PDF file
- Original work files (WORD, POWER POINT, EXCEL, AutoCAD, etc.).
- Photographs
- 1 Audio Video Presentation

All deliverables and related documents **will be provided in English.**

4.5 Language Requirements

The experts will be required to be fluent in English. All written material submitted to the PMU should be of such quality that no additional technical editing is required. Knowledge of personnel in the local dialect is also desirable.

4.1 Contractor's Qualifications

The CONTRACTOR must:

- Preferably satisfy the criteria set forth in section 2.3 of the Practical Guide to contract procedures for the European Union external actions specifically 2.3.1 the rule on nationality and origin.

a) The Nationality Rule

Participation in tender procedures managed by the beneficiary(ies) is open on equal terms to all natural who are nationals of and legal persons (participating either individually or in grouping-consortium- of tenderers) effectively established in a Member State or a country, territory or region mentioned as eligible by the relevant regulation/basic act governing the eligibility rules for the grant as per Annex A2a to the practical guide. Tenderers must state

their nationality in their tenders and provide the usual proof of nationality under their national legislation.

This rule does not apply to the experts proposed under service tenders financed by the grant.

b) The Rule of Origin

If the basic act or the other instruments applicable to the programme under which the grant is financed contain rules of origin for supplies acquired by the beneficiary in the context of the grant¹, the tenderer must be requested to state the origin² of the supplies, and the selected Contractor will always have to prove the origin of the supplies.

For equipment and vehicles of a unit cost on purchase of more than EUR 5 000, Contractors must present proof of origin to the beneficiary(ies) at the latest when the first invoice is presented. The certificate of origin must be made out by the competent authorities of the country of origin of the supplies and must comply with the rules laid down by the relevant Union legislation. Failure to comply with this condition may result in the termination of the contract and/or suspension of payment.

Where supplies may originate from any country, no certificate of origin needs to be submitted.

Prospective bidders shall have the following qualifications and submit the documents as stated:

- Preferably has previously worked on similar projects in Mindanao area recently (within the past 3 years);
- Has demonstrated efficiency in constructing solar powered agriculture postharvest facilities with certificate of completion as proofs in the country (3 years experience)
- Submit list of completed and on-going projects. The list of completed projects must be for the past three (3) years with the contract price of equal to or greater than 50 percent of the ABC or equal to **Php 11,251,305.00** and with Certificate of Acceptance for each project;
- Must submit a Single Largest Completed Contract with Certificate of Acceptance.
- Must be PHILGEPS registered.
- Submit the following additional documents:
(To be submitted during Post Qualification):
 - a. DTI Business name registration or SEC registration certificate, as the case may be. For corporations, submit updated General Information Sheet;
 - b. Valid and current mayor's permit/municipal license (principal place of business);
 - c. Clearance from SSS, PAG-IBIG and PhilHealth;
 - d. BIR Value Added Tax registration and proof VAT payment;
 - e. Certificate of origin/importation/delivery proving the materials and equipment are brand new (to be submitted upon 100% delivery)

4.2 Contractor's Personnel

Contractor must provide a dedicated person in-charge (PIC) and back-up personnel as contact point and project coordinator. The PIC or the backup personnel must be available for meetings

during the execution of the project. The Contractor PIC must liaise directly with Project Management Unit (PMU) of I-PURE for this project and comply with requirement put forward by PMU.

A Resident Engineer is to be made available in the area of the project at all time during the project execution time commencing until 3 months after conclusion of testing and commissioning. This person can be the dedicated PIC. All engineering services shall be performed by professionals duly licensed in the Philippines or the region, based on the specific discipline required, and have specific experience in implementing solar PV systems. Each submitted final design drawing, calculation document, and technical specifications shall be signed and dated by, bear the seal of, and show the Professional Accreditation Number of the Engineer who prepared the document.

Contractor attests to be responsible for the professional quality, technical accuracy, and coordination of all engineering services required in this service contract. The contractor shall fill Form No.4: Schedule of Key Staff required for Post-Qualification Assessment.

The Contractor must have suitably qualified personnel to fill key positions, as described in the table below:

	Total Experience	Experience in Similar Works (in years)	Background and Description
Project Manager	3 Years	3 Year	Project management and technical experience in the installation and commissioning of similar systems, especially systems located in remote and isolated areas
Electrical Engineer	3 Years	3 Years	technical experience in the installation and commissioning of similar systems, especially systems located in remote and isolated areas
Civil Engineer/Mechanical Engineer	3 Year	3 Years	technical experience in the installation and commissioning of similar systems, especially systems located in remote and isolated areas
Agriculture Engineer	3 Year	3 Years	technical experience in the installation and commissioning of similar systems, especially systems located in remote and isolated areas
Safety Engineer or Officer	2 Years	2 Years	experience in the installation and commissioning of similar systems, especially systems

			located in remote and isolated areas
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5.0 Terms of Payment/Milestones

Terms of payment will be based on technical milestones such as equipment shipment and delivery to the site, completion of site works, installation, completion of electromechanical works, testing and commissioning, training and project turnover with an indicative payment schedule (agreed upon during contract finalization) as below:

Terms of payment will be based on technical milestones such as equipment shipment and delivery to the site, completion of site works, installation, completion of electromechanical works, testing and commissioning including integration with the distribution system and diesel generator and project turnover with an indicative payment schedule (agreed upon during contract finalization) as below:

Schedule of Payment	Milestone
15%	Signing of contract
35%	Delivery of materials
20%	Electromechanical completion
20%	Testing and commissioning
10%	3 months from handover

Since all of these payments shall be subject to the usual government accounting and auditing requirements, the Contractor is expected to be familiar with the Government Accounting and Auditing Manual (GAAM).

6. Penalties / Liquidated Damages

Failure to comply with the Terms and Conditions of the contract will result in the payment of corresponding penalties/liquidated damages in the amount equal to 1/10 of 1% of the cost of the unperformed portion for every day of delay. Once the cumulative amount of liquidated damages reaches 10% of the amount of the contract, NEA shall rescind the contract, without prejudice to other courses of action and remedies open to it.

3. TECHNICAL SPECIFICATIONS

1. Ice Maker and Storage

1.1 Capacity Requirements

Particulars	Units	
Flake Ice Maker with Ice Storage		
Inlet		Seawater
Total Plant Daily Ice Making Capacity	(kg)	5000/24hrs
No. of Machine	Units	1
Ice Production	Hrs	10 Hrs
Power	Kw	26
Power Supply	V	380-415V, 60Hz, 3 phase
Ice Temperature	C	-12C
Color of Ice Block		White
Ice Flakes Size	Mm	1.8 - 6 mm
Cooling		Water / Air
Ice Storage Capacity for Excess Ice	T	4 T
Product Warranty	Year	1

2. Seawater Reverse Osmosis Water Desalination Machine and Pumps

The desalination machine converts seawater to potable grade water and can run with solar or wind. The size of the Machine to be specified by the Bidder and should be enough to supply the required water to meet the daily production.

Product Warranty: 1 Year

2.2 Certification standards

The required standards are all of the following;

- ISO 9001:2008 and ISO 140001 Certificates of the Manufacturer or equivalent
- Certification from the Distributor that parts and services, including spare parts, for the equipment/machine offered are available for the next five years within the Philippines

3. Photovoltaic (PV) modules

3.1 Certification standards

Compulsory certifications for crystalline modules are all of the following:

- IEC 61215 (2005-04): Crystalline silicon terrestrial photovoltaic (PV) modules – Design qualification and type approval and 61730 “Module Safety Qualification”
- IEC 61701 Ed.2: Salt mist corrosion testing of photovoltaic (PV) modules
- All systems must be installed in accordance with IEC 62548 “Installation and Safety Requirements for Photovoltaic systems”
- ISO 9001:2008 and ISO 140001 Certificates of the Manufacturer or equivalent
- Certification from the Distributor that parts and services, including spare parts, for the equipment/machine offered are available for the next five years within the Philippines

PV modules shall meet the following requirements:

3.2 Particular Requirements

- a) The photovoltaic (PV) array shall consist of mono-crystalline or poly-crystalline modules. **Note that thin film modules are not acceptable**
- b) High-power high-voltage modules are favoured over low power low-voltage modules. To reduce the attractiveness of the modules to vandals, it is recommended that very large high-voltage modules are used (300Wp minimum). The number of cells per module offered shall be specified.
- c) The panel efficiency is at least 20% at STP.
- d) Only one standard size of module (one manufacturer and model) shall be used to facilitate spares and parts management.
- e) The array is ground-mounted. See below ideal solar PV mounting structure:



3.3 General Requirements

- a) All PV modules within an array shall be of the same type and hence interchangeable.
- b) Each module must be factory equipped with 14 to 12 AWG (2.0 to 4mm²) fly-leads length approximately 800mm with weather-proof connectors for interconnection of modules into strings without any additional wiring. There are a multitude of professional PV array quick connectors available for array fly-leads cables in the 2-4mm² range. The connectors shall have the following features:
 - Class II rating for fly-leads and connectors
 - system voltage 1,000V maximum,
 - IP68 protection rating
 - temperature up to 90oC
 - 20A current rating
 - 2.5-4mm² cables
 - Snapping locking system

- c) The module framing should be such that it permits secure connection to the mounting structure, prevents edge damage and has the longevity to withstand environmental factors for the duration of the module warranty period.

3.4 Electrical performance

- a) The tolerance of rated output of the PV modules offered shall be positive only. Negative tolerances are not allowed.
- b) Crystalline modules shall have a bypass diode (IP67 and IEC 62790 compliant) which is located in the PV module junction box so that they can be replaced without replacing the module. (Bypass diodes are installed to prevent hot-spots in modules, which occur often as a result of partial shading of modules. Shading may be more likely when anti-vandalism array-security brackets are used to fix modules into place).
- c) Module warranty: 10 years: The PV modules shall be warranted to retain at least 80 percent of its nominal rated output measured at STC for at least twenty-five years.

3.5 Labelling and documentation

- a) Labelling: Each module must be labelled indicating at a minimum:
 - Manufacturer, Model Number, Serial Number,
 - Maximum Power Point Watt Rating ($W_p \pm$ tolerance),
 - Maximum Power Point Current,
 - Maximum Power Point Voltage,
 - Open Circuit Voltage and Short Circuit Current of each module.
- b) The Contractor is required to provide for each PV Module offered the following data: Equipment Origin, Type of Certification, and the following general data
 - I-V Curves at AM1.5, NOCT,
 - Electrical data
 - Maximum Power Point Watt Rating ($W_p \pm$ tolerance),
 - Maximum Power Point Current,
 - Maximum Power Point Voltage,
 - Open Circuit Voltage and Short Circuit Current of each module.
 - Dimensions,
 - Warranty,
 - Product brochure
- c) The Contractor is required to provide for each Panel supplied the following test data
- d) Flash test information for each individual module shall be provided.

4. Power conditioners and inverters

4.1 Certification standards

The required standards are all of the following:

- IEC 62109 Safety of power converters for use in photovoltaic (PV) power systems
- Underwriters Laboratory (UL) 1741 - Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources
- ISO 9001:2008 and ISO 140001 Certificates of the Manufacturer or equivalent
- Certification from the Distributor that parts and services, including spare parts, for the equipment/machine offered are available for the next five years within the Philippines

4.2 Particular requirements

- a) Whichever power conditioning is offered, it shall be well matched with the array and motor such that overall system efficiency is maximised.
 - DC systems: linear current boosters, sometimes included within each module terminal box
 - DC/AC inverter, variable frequency inverter, either single phase or three phase
 - Maximum power point trackers (MPPT), often used in conjunction with inverters
 - Stand-alone programmable variable speed drives (VSD)
- b) The electrical outputs of the power conditioner shall preferably be fully galvanically isolated from the DC. The state of galvanic isolation between power conditioner input and output shall be declared in the Technical Bid Submissions.
- c) Must be able to provide logged data on power generated per period (configurable). The inverter shall have a minimum display parameters for: AC output power, AC output voltage, AC output current frequency, Power factor, PV array voltage, PV array current, AC energy yield, Events/errors
- d) IP Protection Class: IP65
- e) Only one brand of power conditioner shall be used to facilitate spares and parts management.

4.3 General requirements and electrical performance

- a) Rated output power (kVA) shall be at temperature of at least 25°C
- b) High conversion efficiency devices are required with the following minimum requirements when measured according to IEC 61683 Ed. 2.0: Photovoltaic systems - Power conditioners - Procedure for measuring efficiency. The conversion efficiency shall be supplied.
- c) Easy to service: easy to repair or replace in the field by the service technicians.

4.4 Electrical protection

- a) Protection must include at least the following sustained normal conditions without cut-out:
 - output current overload and starting surge capacity before cut-out (300% of maximum capacity for 20 seconds is desirable, or soft-start ability, maximum array open circuit voltage on the input terminals (cold clear weather) - normal
 - operation without cut-out
- b) Protection must include at least the following sustained fault conditions without damage:
 - output current overload - sustained fault condition
 - short circuit on input or output terminals - sustained fault condition
 - under-or over-voltage conditions - sustained fault condition
 - lightning-induced surges on all or any input or output terminals: all terminals subject to common and differential mode surges of 5kV for 50 micro-seconds.
 - electronic overload/cut-out above 200% of the rated output and short-circuit protection on its output. A fused output is not acceptable.
 - reverse polarity protection on DC input terminals.
 - thermal overload protection.

4.5 Noise and emissions

- a) Quiet operation: Acoustic noise generated by the inverter shall not exceed 35 dBA at a distance of 1m from the power conditioner under all loading conditions.

b) Electromagnetic interference: The power conditioner shall not cause conducted or radiated e.m.i. over the entire power range at a distance greater than 1m, when measured according to the requirements of IEC CISPR 22 for class B and IEC 61000-4-3.

c) Electrostatic discharge: The inverter shall comply with the requirements of the test procedures given in IEC 61000-4-2.

4.6 Documentation and labelling

a) Each power conditioner / inverter must be labelled with the minimum information:

- Manufacturer name and model
- Serial number
- Input and output voltage and rated power
- Array, supplementary power and load connection points and polarity

b) The Contractor is required to provide the following data for each power conditioner offered:

- System rating (kW/kVA) with temperature de-rating curves/tables
- Input Voltage (DC) range for solar
- Supplementary input range (V, kW) for generator/grid
- Output Voltage (DC/AC)
- Output Frequency and Waveform
- Efficiency versus Power output graph
- Warranty
- Product brochure

4. Substation / Transformer

The contractor must recommend the appropriate kVA rating of the power transformer/s.

The power transformer/s must be designed and manufactured in accordance with the requirements of the Institute of Electrical and Electronic Engineers (IEEE) C57.12.10 (IEEE Standard Requirements for Liquid-Immersed Power Transformers) and suitable for outdoor installation.

5. Electric pumps & motors

5.1 Certification standards

The required performance tests standards are at least one of

- IEC 62253 Ed.1: Photovoltaic pumping systems - Design qualification and performance measurements
- ISO 9906: 2012: Rotodynamic pumps -- Hydraulic performance acceptance tests -- Grades 1, 2 and 3
- ANSI/ HI 14.6: 2011: Rotodynamic pumps for hydraulic performance acceptance tests
- ANSI/ HI 11.6:2012: Rotodynamic submersible pumps for hydraulic performance, hydrostatic pressure, mechanical, and electrical acceptance tests.

And,

- Certification from the Distributor that parts and services, including spare parts, for the equipment/machine offered are available for the next five years within the Philippines

In addition the motor/pumps have to meet the following requirements:

5.2 Particular requirements

- a) The motor/pump performance should match the system head/flow characteristics for optimum system performance.
- b) The motor/pump at system design operating point, must have capacity for production of at least 15% more water by application of additional power to the motor. Motor/pump should be sized to handle the maximum power that can be produced by the array and power conditioning, plus at least 15%.
- c) Any motor types are allowed provided that they meet system performance and system maintenance requirements.
- d) Any pump types are allowed provided that they meet system performance and system maintenance requirements.
- e) Only one brand of motor and one brand of pump shall be used to facilitate spares and parts management. A maximum of 5 models or sizes each of motor and pump is allowed.

5.3 Mechanical requirements

- a) Submersible motors shall be constructed of corrosion resistant materials suitable for permanent total immersion in water. In general, stainless-steel pump shall be used at a minimum (EN/DIN 1.4301 or AISI 304). Water quality tests are to be considered in this regard. In high water salinity (>1,000 ppm Cl) and high water temperature (> 20oC) environments then stainless steel of EN/DIN 1.4401 / AISI 316 and even EN/DIN 1.4539 / AISI 904L shall be used.
- b) Surface mount motors shall be to at least IP43 ratings against water, sand and dust penetration and damage. Surface motors shall be corrosion resistant, both the casing and windings shall be treated, and any flow of moist corrosive air shall not cause expansion of windings into the stator.
- c) Motors/pump units should be constructed such that any failure of a pump component (diaphragms etc) does not cause damage to the motor.
- d) The casings of both surface and submersible motors shall have earth points suitable for bonding to other equipment. The motor shall be fully electrically isolated from the casing.
- e) The expected motor and pump lifetime shall be declared.
- f) Pumps / motors requiring regular routine and preventative maintenance, such as brush replacement on DC motors, or diaphragms on some positive displacement pumps, should have maintenance requirements are to be specifically noted in the Recommended spares Form
- g) Pumps shall be able to handle up to 5% suspended solids (50mg/litre) without damage and should have a 1mm screen around the inlet. Water quality tests are to be considered in this regard, for up to 15% suspended solids (150mg/litre). To minimise the effects of silting and wear of impellers on system performance, impellers should generally be manufactured from stainless steel, rather than from plastic/elastomer, but where necessary FKM rubber wear rings may be specified to achieve the long life. In all cases, impellers are to be changeable as they wear, preferably in the field.
- h) Submersible pumps must be able to operate at different submergence levels, since seasonal groundwater level variations can be significant.

5.4 General requirements and electrical performance

- a) Pumps are to be high efficiency with certified performance curves
- b) Variable speed pumps or with soft-start are preferred.

5.5 Electrical protection

- a) Running dry protection shall be provided, and the motor shall not restart until the motor/pump/inlet is again fully submersed as required. Indicator lights on the control cubicle shall be provided showing that the dry-running cut-out is effective.
- b) Pump / motor protection must include **at least** the following sustained fault conditions without damage:
 - output current overload - sustained fault condition
 - short circuit on input or output terminals - sustained fault condition
 - under-or over-voltage conditions - sustained fault condition
 - lightning-induced surges on all or any input or output terminals: all terminals subject to common
 - and differential mode surges of 5kV for 50 micro-seconds.
 - Electronic overload/cut-out above 200% of the rated output and short-circuit protection on its
 - output. A fused output is not acceptable.
 - reverse polarity protection
 - thermal overload protection.
 - protection against N-E and L-E grounding downstream of conditioner.

5.6 Documentation and labelling

- a) Each pump / motor must be labelled with the minimum information:
 - Manufacturer name and model
 - Serial number/barcode
 - Input voltage and rated power
- b) The Contractor is required to provide for each motor offered the following data:
 - Rating (kW/kVA) with temperature de-rating curves/tables
 - Input Voltage (DC/AC) range
 - Certified motor and pump performance curves
 - Warranty
 - Product brochure

6.0 Products and materials to be supplied

Products and materials supplied must withstand the prevailing seasonal and year-round temperatures and conditions at the site (sunlight, heat, rain, cold, wind, seismic, salt air, fog, marine corrosiveness, etc.). Corrosion-proofing should be considered for PV hardware and rack components as well as inclement weather conditions in the area (e.g. typhoons, storm surges). Design should also withstand wind speeds of up to 250 kph.

The control system must be housed in insulated and airconditioned containers, to be provided by the contractor, to prevent corrosion from sea spray and salt particles from the wind as the site locations are both coastal areas.

For compatibility and consistency of supply of parts equipment and spares, each component (e.g. modules, inverters, and electrical switchgear, etc.) must be from the same manufacturer and product line.

All equipment, products, materials and supplies, including their parts and spares, are to be turned over in brand-new condition; The project will not accept any used, repaired, refurbished or sub-standard equipment, products, materials and supplies.

There should be visible and durable markings on electrical equipment and components used in PV systems to identify the manufacturer, size, type, ratings, hazard warnings, and other specifications.

NAME OF BIDDER: _____
 BIDDING NO.: _____

TECHNICAL SPECIFICATIONS COMPLIANCE

Bidders must state here either “YES” for compliance or “NO” for non-compliance against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of “Comply” or “Not Comply” must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer’s un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidders statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject

Technical Specifications Compliance				
IPURE REQUIRMENTS		Quantity	Compliance Yes/No	Remarks
Item	Name and Required parameters			
1	Equipment, parts, supplies			
1.1	5T Flake Ice Maker with 4T Ice Storage			
	Detailed Specifications in Section 3.1			
	Required Certifications are the following: <ul style="list-style-type: none"> • ISO 9001:2008 and ISO 140001 Certificates of the Manufacturer or equivalent • Certification from the Distributor that parts and services, including spare parts, for the equipment/machine offered are available for the next five years within the Philippines 			
	Product Warranty of 1 Year			
	Seawater Reverse Osmosis Desalination Machine			
	Product Warranty: 1 Years			
	Type: Seawater Reverse Osmosis			
	Required Certifications are the following: <ul style="list-style-type: none"> • ISO 9001:2008 and ISO 140001 Certificates of the Manufacturer or equivalent 			

	Certification from the Distributor that parts and services, including spare parts, for the equipment/machine offered are available for the next five years within the Philippines			
	Size of the Machine should be enough to supply the water requirement. (To be specified by the Bidder.)			
1.2	150KWp Solar PV Array			
	Detailed Specifications in Section 3.2			
	Mono-crystalline or Poly-crystalline modules			
	Ground-mounted			
	ten (10)-year warranty on the solar PV modules with at least eighty percent (80%) power output guaranteed at 10 (10) years and 25 years expected useful life			
	Nominal Power - P _{MAX} (Wp) per module: 300Wp (min.)			
	Panel Efficiency: 20% under STP			
	No. of Cells: To be specified by bidder			
	Nominal Power Voltage-VMPP: To specified by bidder			
	Nominal Power Current - IMPP: To specified by bidder			
	Open Circuit Voltage - VOC: To specified by bidder			
	Short Circuit Current - ISC: To specified by bidder			
	Required Certifications are the following: <ul style="list-style-type: none"> • ISO 9001:2008 and ISO 140001 • International Electrotechnical Commission (IEC) 61215, IEC 61730, and IEC 62548 • Certification from the Distributor that parts and services, including spare parts, for the equipment/machine offered are available for the next five years within the Philippines 			
	Connectors: MC4			
	Cable: 12 AWG (4mm ²) PV Wire			
	Terminals: Screw-type & must be marked with (+) and (-)			
	With bypass diodes IP67 (IEC 62790 compliant)			
1.3	Balance of System (BOS)			

	PV CABLE			
	Wire Size: 4mm ²			
	PV CONNECTOR (MC4 PV CONNECTOR)			
	Rated Voltage: 1000V maximum			
	IP68 protection rating			
	system voltage 1,000V maximum			
	temperature up to 90oC			
	Snapping locking system			
	Class II rating for fly-leads and connectors			
	PV SYSTEM MOUNTING ACCESSORIES			
	10-year warranty on racking and mounting supports			
	Solar Panel Earthing Clip: Required Solar Panel Grounding Lug: Required See Section 2.2 for the ideal Solar PV mounting structure			
1.3	Energy Management System and Inverters (Grid-Tied / On-grid)			
	Max Power: 150kW (either 1 unit 150kW, 3 units 50kW, or 2 units 75kW)			
	5-year warranty on the inverters.			
	5-year warranty on the Energy Management System			
	Required Certifications are the following: <ul style="list-style-type: none"> • ISO 9001:2008 and ISO 140001 Certificates of the Manufacturer or equivalent • Underwriters Laboratory (UL) 1741 - Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources • Certification from the Distributor that parts and services, including spare parts, for the equipment/machine offered are available for the next five years within the Philippines 			
	Quiet operation: Acoustic noise generated by the inverter shall not exceed 35 dBA at a distance of 1m from the power conditioner under all loading conditions			

	Nominal Operation Frequency: 60 Hz			
	Must be able to provide logged data on power generated per period (configurable). The inverter shall have a minimum display parameters for: AC output power, AC output voltage, AC output current frequency, Power factor, PV array voltage, PV array current, AC energy yield, Events/errors			
	Electrical Protection – see section 3.4 for details			
	Max. Efficiency: 97.9%			
	IP Protection Class: IP65			
	MPPT (to be specified by the Bidder either separate component or integrated in the inverter)			
1.4	Substation/transformer To cover but not be limited to: step-up transformers, take-off pole, meters, CT & PT, protective device such as recloser, cut-outs, LBS, etc. IEEE C57.12.10 Detailed Specifications in Section 3			
	Transformer warranty period: 2 years (warranty certification is required)			
1.6	Metering and Control system			
1.7	Monitoring and Data Retrieval system			
1.8	Pre-fabricated Warehouse Shed or Facility			
	Size: 10x20m (min) Design Layout to be specified by the Bidder.			
	Lighting and Ventilation System To be specified by the bidder			
	A five (5)-year warranty on the structure to withstand wind speed of 200kph			
	Frames: Prefabricated Metal Wall: concrete or metal or vinyl Roof: Metal or Vinyl			
	Lightings: to be specified by the bidder			
1.9	Solar Array Perimeter Fence Perimeter fence (wire mesh) for the solar modules and substation or equivalent, including outlet assembly			
1.10	Electric pumps & motors			
	The required performance tests standards are either one of			

	<ul style="list-style-type: none"> • IEC 62253 Ed.1: Photovoltaic pumping systems - Design qualification and performance measurements • ISO 9906: 2012: Rotodynamic pumps -- Hydraulic performance acceptance tests -- Grades 1, 2 and 3 • ANSI/ HI 14.6: 2011: Rotodynamic pumps for hydraulic performance acceptance tests • ANSI/ HI 11.6:2012: Rotodynamic submersible pumps for hydraulic performance, hydrostatic pressure, mechanical, and electrical acceptance tests. 			
	Certification from the Distributor that parts and services, including spare parts, for the equipment/machine offered are available for the next five years within the Philippines			
	Warranty period: 1 year (warranty certification is required)			
1.11	Spare Parts			
1.12	Basic and Special Tools			
2	Related Services			
2.1	Engineering Design			
2.2	Virtual Factory Acceptance Test			
2.3	Installation, site inspection/monitoring and documentation			
2.4	Training for Technical Staff of the Project & Beneficiary Organization/s for the operation, management and maintenance (OM&M) of PURE system/s			
2.5	Detailed OM&M Manuals for each appropriate unit of the supplied Goods			
2.6	After-Sales Services			

I hereby certify that the statement of compliance to the foregoing technical specifications are true and correct, otherwise, if found to be false either during bid evaluation or post-qualification, the same shall give rise to automatic disqualification of our bid.

Name of Bidder/Company

Signature over Printed Name of
Authorized Representative

Date

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class “A” Documents

Legal Documents

- (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages); **or**
- (b) Registration certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives or its equivalent document, **and**
- (c) Mayor’s or Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas; **and**
- (d) Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR).

Technical Documents

- (f) 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**
- (g) 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**
- (h) 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**
- (i) Conformity with the Technical Specifications, which may include production/delivery schedule, manpower requirements, and/or after-sales/parts, if applicable; **and** the following documents:
 - Form No.1: Bill of Quantities
 - Form No.2. Detailed Explanation on Technical Proposal (See Form No.2 for details)
 - Form No. 4 Technical Specifications Compliance
 - Form No. 5 Compliance for Safeguards Obligations
 - Technical Specifications of components, Manufacturer’s Data, Sample Test Certificates and Average Service Life Certificates.
 - Preliminary System Design Guaranteed Electricity Generation, Electrical Design, Civil/Structural Design; and Instrumentation and Control/ Communication System Architecture, Visual Mock-up of the Proposed Facility
 - Location of Local Service Center
 - List of Suggested Spare parts and Tools
 - Specific Experience: Valid proof for this required experience such as completion certificates with technical details of the works executed Form No.3: Schedule of Key Staff

- Cash Flow and Payment Schedule
- (j) 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.
- (k) Other documents required by NEA
 1. Certificate of origin/importation/delivery proving the materials and equipment are brand new (to be submitted upon 100% delivery)
 2. Certification confirming statement on the delivery schedule;
 3. Certification confirming statement on the installation schedule;
 4. Certification confirming statement on warranty being offered;
 5. List of At least two (2) forward trucks and/or any motor vehicle (include plate number);

Financial Documents

- (l) The Supplier's audited financial statements, showing, among others, the Supplier's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission; **and**
- (m) 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

- (n) 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.

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

- (o) [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.
- (p) Certification from the DTI if the Bidder claims preference as a Domestic Bidder or Domestic Entity.

FINANCIAL COMPONENT ENVELOPE

- (a) Original of duly signed and accomplished Financial Bid Form; and

NAME OF BIDDER: _____
 BIDDING NO.: _____

BILL OF QUANTITIES

Provide a bill of quantities in a format similar to that provided below, under Table X–Example Bill of Quantities Format. The structure may be changed to fit the bid, as outlined in the Technical Specifications. Bidders shall provide BoQ information & unit prices for each component of the PURE system. This table will be used for ensuring completeness of the systems.

It is required that both ‘toolbox’ and items listed per the ‘spare’ are also itemized in such a table. Presented below is an illustrative bill of quantities (BOQ). Bidders are required to use this format, but component sizes, quantities and descriptions may be adjusted to suit the specific components offered. Bidders shall provide BOQ information and unit prices for each component for each PURE Systems. Bidder should also provide total unit price (goods and related services) of each type of system.

PURE SYSTEM: _____

Item No.	Description	Quantity	Unit	Unit Cost (PHP)	TOTAL (PHP)
	A)Machine Components				
1	Xxxxxx				
2	Xxxxxx				
3	Xxxxxx				
4	Tools				
5	Spare Parts (if any)				
	B)Related Services				
6	Installation, site inspection/monitoring and documentation				
7	Training for Technical Staff of the Project & Beneficiary Organization/s for the operation, management and maintenance (OM&M) of PURE system/s				
8	Detailed OM&M Manuals for each appropriate unit of the supplied Goods;				
9	Sub-Total Related Services				
10	TOTAL COST				

NAME OF BIDDER: _____
BIDDING NO.: _____

DETAILED EXPLANATION ON TECHNICAL PROPOSAL

Bidder shall provide a technical proposal of approach and method statement that will include:

- **Work Organization**
- **Method Statement**
- **Mobilization Schedule**
- **Installation Schedule**
- **Personnel**
- **Equipment**
- **Training Experience & Method**

Supply, delivery and installation

Describe the approach, staffing plan, logistical arrangements and schedule for the supply and installation/supervision of the systems as with adequate detail to permit verifying:

- The completeness and realism of approach, methodology and logistics for the supply, including procurement and delivery, and installation of the Goods
- Installation practices, commissioning tests and initial user-training comply with specifications.
- Delivery schedule is consistent with the required time-frame.
- Adequate managerial competence, including for supervision and financial controls.

The description and plan should cover the provision of the appropriate skills at offices serving the project area, as well as back-up support from other offices.

- Adequate technical competence, including for quality assurance, installation and maintenance support services. Cover the provision of the appropriate skills at offices serving the project area, as well as back-up support from other offices.
- Describe the Supplier's own arrangements and procedures for quality control of the equipment supply and installations.

Include a work breakdown and GANTT chart. Also, provide qualification requirements, job descriptions and names of the principal staff that will provide management, installation and maintenance support to the project areas. Include an organogram indicating the organizational structure and location of key staff and organizational units.

Specific numeric data to be provided to the below requirements below requirements (provide data for every project site/work package):

- 1. Key management staff:** list of tasks, number of people,
- 2. Key logistics staff and vehicles:** list of tasks, number of people, number of vehicles
- 3. Installation teams:**
 - Number of Installation teams,
 - Installation Team Management approach

NAME OF BIDDER: _____
 BIDDING NO.: _____

SCHEDULE OF KEY STAFF

[The Bidder shall fill this Form for each project site or work package]

PROJECT SITE / WORK PACKAGE: _____	
------------------------------------	--

1	Name of Project Manager	Qualifications and Experience Attached? [Y / N]
	Nature of tasks assigned [describe key tasks to be undertaken]	
2	Name of Electrical Engineer	Qualifications and Experience Attached? [Y / N]
	Nature of tasks assigned [describe key tasks to be undertaken]	
3	Name Civil Engineer/Mechanical Engineer	Qualifications and Experience Attached? [Y / N]
	Nature of tasks assigned [describe key tasks to be undertaken]	
4	Name of Agriculture Engineer	Qualifications and Experience Attached? [Y / N]
	Nature of tasks assigned [describe key tasks to be undertaken]	
5	Name of Safety Engineer or Officer	Qualifications and Experience Attached? [Y / N]
	Nature of tasks assigned [describe key tasks to be undertaken]	
6	Name of Maintenance/Operational and Training Staff	Qualifications and Experience Attached? [Y / N]
	Nature of tasks assigned [describe key tasks to be undertaken]	
7	Name of Installation Team/Staff	Qualifications and Experience Attached? [Y / N]
	Nature of tasks assigned [describe key tasks to be undertaken]	

NAME OF BIDDER: _____
BIDDING NO.: _____

Compliance for Safeguards Obligations

The contractor commits to ensure that all staff comply with associated safeguards procedures outlined in the project’s Environmental and Social Safeguards Framework (ESSF) in accordance with EU Policy guidance on Environmental Assessment, Involuntary Resettlement, and Indigenous Peoples and Philippine National laws (PD 1586) or the EIS System, (DAO No. 2003-30) Implementing the IRR for the Philippines EIS System and its Procedural Manual, RA 6969 and 9003, as prepared by DENR. In line with the ASEP environmental and social safeguards, the project should meet the following:

1. The Contractor/Supplier commits to follow the Environmental Management Plan (EMP) during construction and operation of the project. The EMP consists of mitigation measures to solve possible adverse impacts and monitoring compliance. Mitigation measures to follow include:
 - a) Setting up of temporary disposal units within the construction area and properly dispose generated wastes.
 - b) Contractor and workers observe proper housekeeping, sanitation and waste minimization.
 - c) Activities should only be done during the day to avoid noise.
 - d) Refer to RA 6969 for accidental release of pollutants to soil and/or groundwater.
 - e) Preparation and conduct of decommissioning plans, including proposed disposal methods, recycling opportunities and collection.
 - f) Properly dispose used chemicals.

2. The Contractor commits to observe the Environmental Codes of Practice (ECoP) for solar energy development by due diligence during procurement, and construction / installation of facilities.
3. In procuring, consider type of PV cells manufactured. Take note of toxicity and health hazards posed by chemical substances used in the PV manufacturing process (e.g. phosphine used in amorphous silicon cells is very toxic and poses a severe fire hazard through spontaneous chemical reaction.).
4. In sourcing out the PV cells and other solar components, consider manufacturer’s experience and its compliance with local, national/and or international laws and regulations concerning toxic and hazardous substances
5. The Contractor commits to avoid any damage to properties such as lands, structures, crops, and trees. Should any private assets or public properties be affected, the contractor shall restore or replace such assets/properties or compensate the owners in accordance with the ESSF.
6. The Contractor commits to conduct its activities with full respect and consideration of Indigenous Peoples’ unique culture and practices. Before entering IP areas, the Contractor is expected to coordinate with relevant local authorities, i.e., representatives of the National Commission on Indigenous Peoples (NCIP) or leaders of ethnic groups, etc. Indigenous Peoples are mixed within the general populations of the areas targeted, and their rights and cultures must always be respected even though they will be indirect recipients of the installed system.

Name of Bidder/Company

Signature over Printed Name of
Authorized Representatives

Date

