

TERMS OF REFERENCE

1. PROJECT DESCRIPTION

This specification shall cover the plan for the Construction, Installation, Operation, and Maintenance of the Microgrid System including Associated Services, such as Customer Billing and Collections, to provide 24/7 electricity services for all existing and projected households in the selected area/s from **Annex A**, in accordance with the technical specifications identified herein.

2. PROJECT LOCATION

This should specify the unserved areas identified for services by the Bidders in accordance with the list provided in **Annex A**.

3. GENERAL CONDITIONS

- 3.1** The proposed microgrid system shall meet the peak demand of the proposed service area for the duration of the cooperation period.
- 3.2** The proposed microgrid system shall only operate on an island mode for the duration of the cooperation period.
- 3.3** The proposed rate shall be the total blended rate, in PhP per kWh, to include generation and distribution costs, which shall be the least cost and shall have the minimum impact on the recovery of Universal Charge on Missionary Electrification (UCME).
- 3.4** The Generating Capacity proposed by the Bidders shall consider the optimal supply configuration that will redound in the highest net reduction in the UCME subsidy requirement for the concerned MGSP area.
- 3.5** The total electrification of the initially identified number of households as indicated in the invitation to bid shall be completed upon commercial operations of the microgrid systems.
- 3.6** The Bidders shall ensure compliance with the Philippine Small Grid Guidelines (PSGG) issued by the Energy Regulatory Commission (ERC), Renewable Portfolio Standards (RPS) for Off-Grid Areas, and submission of the 100% total electrification master plan for the service areas to the Department of Energy (DOE).

4. PROJECT DEVELOPMENT DURATION

The Delivery Period and/or start of Commercial Operations shall be not later

than eighteen (18) months from the execution of the Microgrid Service Contract (MSC) with the National Power Corporation (NPC).

5. COOPERATION PERIOD

The Cooperation Period for the Supply and Delivery of electricity services to the identified unserved areas shall be twenty (20) years from the date of its commercial operations.

6. RESPONSIBILITIES OF THE BIDDERS

The Bidder should meet the minimum technical, financial, and institutional requirements. The detailed design and discussions shall be based on the following minimum requirements:

6.1 Technical Requirements:

- 6.1.1 The Bidder shall include full details of the technical capacities and experiences of the key personnel to execute design & engineering, construction works, and set up appropriate operations and management systems. These details should include relevant technical and business management qualifications as well as full descriptions of experience relevant to the technical and commercial operation of electric power generation and supply systems.
- 6.1.2 Details of the proposed arrangements for the acquisition, training, and contracting of the necessary expertise that the applicant does not possess at the time of the application.
- 6.1.3 A statement certifying the applicant intends to design, construct, operate, and maintain its generation and distribution systems in full compliance with the relevant requirements prescribed under applicable laws including EPIRA and its attendant rules and regulations.
- 6.1.4 Notarized Letter of Commitment to secure Renewable Energy Service Contract (RESC) for the development of Microgrid System in the area
- 6.1.5 Demographic Profile of the target area, design, financing, construction, distribution, operation, and maintenance of the microgrid system, i.e., generation and distribution, to meet the peak demand of the service area in accordance with the following:
 - 6.1.5.1 The Generating Facility shall utilize: (1) a Purely Renewable Energy technology system or (2) a combination of RE and conventional sources
 - 6.1.5.2 The Generating Facility may be augmented by an Energy Storage System (ESS).
 - 6.1.5.3 Distribution systems, metering, and other associated requirements, to be constructed, operated, and maintained pursuant to the Philippine Small Grid

- Guidelines (PSGG) and Philippine Distribution Code (PDC)
- 6.1.5.4 All equipment should be brand new, with a manufacturing date no later than the 2023 model. Suppliers should submit a quotation from their selected manufacturer detailing the equipment's model, ratings/size, manufacturing date, and place of origin.
 - 6.1.6 Design and specification of the proposed microgrid systems and all the drawings and documents including but not limited to:
 - 6.1.6.1 Electrification Master Plan;
 - 6.1.6.2 Plan Layout or Site Development Plan;
 - 6.1.6.3 Specification of Plant Capacities for each type of component (PV Panels, PV Inverters, BESS, Diesel Gensets);
 - 6.1.6.4 Technical Specifications of the Distribution Systems;
 - 6.1.6.5 Single-line Diagram;
 - 6.1.6.6 Work and Maintenance Plan;
 - 6.1.6.7 Enhancement and Development Plan;
 - 6.1.6.8 Load Forecast for the Proposed Cooperation Period;
 - 6.1.6.9 Load Curve Estimate;
 - 6.1.6.10 Distribution Line Staking Plan; and
 - 6.1.6.11 Plan for upgrading which will be essential in meeting the projected increase and variability of the demand and the RE resource

6.2 Proposed Technology

6.2.1 Type of RE Resource/Technology

- 6.2.1.1 The technology should be the least-cost option in providing 24/7 electricity service and will result in 100% total electrification in the area over the project term and the RE component should be compliant to the Renewable Energy Portfolio Standards in Off-Grid Areas.
- 6.2.1.2 For households that in terms of commercial viability cannot be connected to the microgrid system, the bidder shall propose an alternative solution to provide electrification.
- 6.2.1.3 A feasibility study may not be required for new technologies, however, proof of commercial operation of at least two (2) years is required.

6.2.2 Compliance with Philippine Small Grid Guidelines (PSGG) & Philippine Distribution Code (PDC)

- 6.2.2.1 The proposal must comply with PSGG and PDC (compliance with technical parameters and operational standards for the microgrid system).
- 6.2.2.2 Use of technologies for a smart grid (such as smart

meters and real-time remote monitoring of performance).

6.2.3 Minimum Specification for Energy Mix

- 6.2.3.1 24/7 power supply
- 6.2.3.2 RE-hybrid system with a minimum RE share of 35% in year one to reach and be maintained at 50% by 2040 and beyond, as aligned with Philippine Energy Plan
- 6.2.3.3 Calculation of RE share over the project's lifetime based on estimated load growth

6.3 Institutional Requirements

The bidder shall include its plan for the operation and maintenance arrangements. To include the following in its proposal:

- 6.3.1. Organizational Setup (Construction and Operational Stage)
- 6.3.2. Framework for Collection, Billing, Disconnection, and Accounting
- 6.3.3. Process of connection/disconnection, resolution of consumer complaints, and additional forms prescribed in this TOR.

6.4 Financial Proposal and Requirements

- 6.4.1 The Bidder shall include the financial proposal, the discussion and all of the assumptions used in the project costing, adequate financing, life-cycle cost estimate, formulation of its proposed Full Cost Recovery Rate (FCRR), and computation of Return of Investment.
- 6.4.2 The FCRR shall specify the cost of generation and distribution. The following assumptions shall be included in the details of the FCRR computation, as applicable:
 - 6.4.2.1 Capital Cost;
 - 6.4.2.2 Fuel Cost based on November 30, 2023, Singapore PLATTS;
 - 6.4.2.3 Fixed Operation and Maintenance;
 - 6.4.2.4 Variable Operation and Maintenance;
 - 6.4.2.5 Taxes;
 - 6.4.2.6 Interest Rates;
 - 6.4.2.7 Published Exchange Rates based on BSP closing rate as of November 30, 2023;
 - 6.4.2.8 Indexation based on the November 30, 2023, costing of PSA or other international-based Consumer Price Index as of the same date, as applicable
 - 6.4.2.9 Exchange Rate,
 - 6.4.2.10 Operation and Maintenance Fee
 - 6.4.2.11 Land Cost
 - 6.4.2.12 Full Cost Recovery Rate (Unbundled)
 - 6.4.2.13 Capital Recovery Fee
- 6.4.3 For the Bidders' Financial Statement, the following documents can be submitted:

- 6.4.3.1 Audited FS for the last two (2) years from the filing date, or the Latest Unaudited FS duly signed by the responsible official such as the President and/or Chief Finance Officer if the Audited FS is more than six (6) months old at the time of filing;
- 6.4.3.2 Bank certification to substantiate the cash balance in the Unaudited FS;
- 6.4.3.3 Projected Cash Flow Statement from Commissioning Date (inclusive of 18 months commitment) showing the fund sources and use of funds to sustain the project inclusive of eighteen (18) months commitment for construction: Next two (2) years; or Next five (5) years for geothermal and large hydro resources
- 6.4.3.4 In case of a loan, Proof of application (subject to post bidding) or Certificate from the bank on the approved loan/proof of credit line earmarked for the proposed project.

7. MICROGRID SERVICE CONTRACT - SUBSIDY AGREEMENT

The Bidders shall execute an MSC with NPC within fifteen (15) calendar days after the notice of award. The MSC shall be the basis on the availing of subsidy by the Bidders from the UCME in accordance with the following:

- 7.1** The reference rate and the amount of the subsidy should be approved by the ERC.
- 7.2** Adjustments to the subsidy level shall be on the energy generated and the approved full cost of recovery over the project's life cycle and shall consider the actual capital cost, fixed cost, and variable cost.
- 7.3** The procedure for billing and collection shall be as indicated in the MSC and in accordance with the NPC billing and collection system.

8. PERMITTING, LICENSING, AND COMPLIANCE TO RESPONSIBILITIES NOT INTEGRATED INTO THIS TOR

The Winning Bidder shall be solely responsible for adhering to its responsibilities that shall be subsequent to its undertaking as MGSP in accordance with the provisions of RA 9136, RA 11646, MGSA-IRR and other relevant issuances by government instrumentalities such as ERC and DOE.

The winning MGSP shall also be responsible for securing all permits, licenses, and other requirements necessary for it to ensure the uninterrupted operation of the microgrid systems.


Approved by:



Undersecretary Giovanni Carlo J. Bacordo
MGSP SBAC, Chairperson



Assistant Secretary Mario C. Marisigan, CESO III
MGSP SBAC, Alternate Chairperson



Director Irma C. Exconde
MGSP SBAC Member



Director Agustus Cesar A. Navarro
MGSP SBAC Member

OIC-Director Myra Fiera F. Roa
MGSP SBAC Member

<COMPANY LOGO>
<COMPANY NAME>
<COMPANY ADDRESS>

LETTER OF COMMITMENT FOR RE CONTRACT APPLICATION

Undersecretary Giovanni Carlo J. Bacordo

MGSP-SBAC Chairperson

Department of Energy

Energy Center, Rizal Drive cor. 34th Street,

Bonifacio Global City,

Taguig City, Philippines 1632

Subject: **Letter of Commitment to Apply for Renewable
Energy Service Contract (RESC)**

Dear **Undersecretary Bacordo**,

We wish to express our intent to apply for an RESC for the development of Microgrid System Project with Renewable Energy component in (***Insert Project Location***).with an estimated potential capacity of (***Insert Estimated Capacity in MW***).

Furthermore, we hereby state our intent to (***avail the Certificate of Authority / directly apply for an RE Contract***) as stipulated in the Revised Omnibus Guidelines.

Thank you.

Very truly yours,

Signature over Printed Name

Applicant or Authorized Representative

Address:

Email address:

Facsimile No.

Mobile No:

CHECKLIST OF COMPLIANCE ON THE MINIMUM TECHNICAL, FINANCIAL AND INSTITUTIONAL REQUIREMENTS

Company Name :
Project location :
Date of Evaluation :
Status :

REQUIREMENTS CHECKLIST	COMPLIANCE
6.1 Technical Requirements	
6.1.1 Full details of the technical capacities and experiences of the key personnel to execute design & engineering, construction works, and set up appropriate operations and management systems. These details should include relevant technical and business management qualifications as well as full descriptions of experience relevant to the technical and commercial operation of electric power generation and supply systems.	Complied
6.1.2 Details of the proposed arrangements for the acquisition, training, and contracting of the necessary expertise that the applicant does not possess at the time of the application.	
6.1.3 A statement certifying the applicant intends to design, construct, operate, and maintain its generation and distribution systems in full compliance with the relevant requirements prescribed under applicable laws including EPIRA and its attendant rules and regulations.	
6.1.4 Notarized Letter of Commitment to secure Renewable Energy Service Contract (RESC) for the development of Microgrid System in the area	
6.1.5 Demographic Profile of the target area, design, financing, construction, distribution, operation, and maintenance of the microgrid system, i.e., generation and distribution, to meet the peak demand of the service area in accordance with the following:	

6.1.5.1 The Generating Facility shall utilize (1) Purely Renewable Energy technology system or (2) combination of RE and conventional sources.	
6.1.5.2 The Generating Facility may be augmented by an Energy Storage System (ESS).	
6.1.5.3 Distribution systems, metering, and other associated requirements, to be constructed, operated, and maintained pursuant to the Philippine Small Grid Guidelines (PSGG) and Philippine Distribution Code (PDC)	
6.1.5.4 All equipment should be brand new, with a manufacturing date no later than the 2023 model. Suppliers should submit a quotation from their selected manufacturer detailing the equipment's model, ratings/size, manufacturing date, and place of origin.	
6.1.6 Design and specification of the proposed microgrid systems and all the drawings and documents including but not limited to:	
6.1.6.1 Electrification Master Plan;	
6.1.6.2 Plan Layout or Site Development Plan;	
6.1.6.3 Specification of Plant Capacities for each type of component (PV Panels, PV Inverters, BESS, Diesel Gensets);	
6.1.6.4 Technical Specifications of the Distribution Systems;	
6.1.6.5 Single-line Diagram;	
6.1.6.6 Work and Maintenance Plan;	
6.1.6.7 Enhancement and Development Plan;	
6.1.6.8 Load Forecast for the Proposed Cooperation Period;	
6.1.6.9 Load Curve Estimate;	

6.1.6.10 Distribution Line Staking Plan; and	
6.1.6.11 Plan for upgrading which will be essential in meeting the projected increase and variability of the demand and the RE resource.	
6.2 Proposed Technology	
6.2.1 Type of RE Resource/Technology	
6.2.1.1 The technology should be the least-cost option in providing 24/7 electricity service and will result in 100% total electrification in the area over the project term and the RE component should be compliant to the Renewable Energy Portfolio Standards in Off-Grid Areas.	
6.2.1.2 For households that in terms of commercial viability cannot be connected to the microgrid system, the bidder shall propose an alternative solution to provide electrification.	
6.2.1.3 A feasibility study may not be required for new technologies, however, proof of commercial operation of at least two (2) years is required.	
6.2.2 Compliance with Philippine Small Grid Guidelines (PSGG) & Philippine Distribution Code (PDC)	
6.2.2.1 The proposal must comply with PSGG and PDC (compliance to technical parameters and operational standards for the microgrid system).	
6.2.2.2 Use of technologies for a smart grid (such as smart meters and real-time remote monitoring of performance).	
6.2.3 Minimum Specification for Energy Mix	
6.2.3.1 24/7 power supply	
6.2.3.2 RE-hybrid system with a minimum RE share of 35% in year one and to reach at least 50% RE share throughout the project lifetime	
6.2.3.3 Calculation of RE share over the project's	

lifetime based on estimated load growth	
6.3 Institutional Requirements	
6.3.1 Organizational Set up (Construction and Operational Stage)	
6.3.2 Framework for Collection, Billing, Disconnection, and Accounting	
6.3.3 Process of connection/disconnection, resolution of consumer complaints, and additional forms prescribed in this TOR.	
6.4 Financial Proposal and Requirement	
6.4.1 The Bidder shall include the financial proposal, the discussion and all of the assumptions used in the project costing, adequate financing, life-cycle cost estimate, and formulation of its proposed Full Cost Recovery Rate (FCRR) and computation of Return of Investment.	
6.4.2 The FCRR shall specify the cost of generation and distribution. The following shall be included in the details of the FCRR computation, as applicable:	
6.4.2.1 Capital Cost;	
6.4.2.2 Fuel Cost based on November 30, 2023, Singapore PLATTS;	
6.4.2.3 Fixed Operation and Maintenance;	
6.4.2.4 Variable Operation and Maintenance;	
6.4.2.5 Taxes;	
6.4.2.6 Interest Rates;	
6.4.2.7 Published Exchange Rates based on BSP closing rate as of November 30, 2023;	
6.4.2.8 Indexation based on the November 30, 2023, costing of PSA or other international-based Consumer Price Index as of the same date, as applicable	
6.4.2.9 Exchange Rate	

6.4.2.10 Operation and Maintenance Fee	
6.4.2.11 Land Cost	
6.4.2.12 Full Cost Recovery Rate (Unbundled)	
6.4.2.13 Capital Recovery Fee	
6.4.3 For the Bidders' Financial Statement, the following documents can be submitted:	
6.4.3.1 Audited FS for the last two (2) years from the filing date; or Latest Unaudited FS duly signed by the responsible official such as the President and/or Chief Finance Officer if the Audited FS is more than six (6) months old at the time of filing;	
6.4.3.2 Bank certification to substantiate the cash balance in the Unaudited FS;	
6.4.3.3 Projected Cash Flow Statement from Commissioning Date (inclusive of 18 months commitment) showing the fund sources and use of funds to sustain the project inclusive of eighteen (18) months commitment for construction: Next two (2) years; or Next five (5) years for geothermal and large hydro resources.	
6.4.3.4 In case of a loan, Proof of application (subject to post bidding) or Certificate from the bank on the approved loan/proof of credit line earmarked for the proposed project.	

Prepared by:

Dir. AMELIA M. DE GUZMAN
MGSP SBAC TWG

Reviewed and Approved:

GIOVANNI CARLO J. BACORDO
MGSP SBAC Chairman