



## SCOPE OF WORK

**Project Title:** Solar Power and Upgrading of Electrical System

**Project Location:** *Southern Leyte State University – Tomas Oppus Campus*

### 1. Project Overview

This Scope of Work describes the detailed requirements, deliverables, technical components, responsibilities, commissioning, and turnover process related to the procurement of a 261kWh Liquid-Cooled Energy Storage Integrated System (ESS). The project shall include complete delivery, installation, testing, commissioning, and integration into the existing electrical system of the end-user, compliant with Philippine Electrical Code (PEC), Energy Regulatory Commission (ERC) standards, Department of Energy (DOE) rules, and other applicable national regulatory requirements.

### 2. General Requirements

1. The bidder must be a legally registered supplier or contractor in the Philippines with applicable business permits and licenses.
2. All activities shall comply with the following standards and regulations:
  - o Republic Act 12009 – Government Procurement Reform Act and its IRR
  - o Philippine Electrical Code (PEC)
  - o DOE, ERC, and NEA guidelines on energy storage and power system integration
  - o LGU or LGU-Electrical Office permitting requirements
  - o Safety standards: OSH Standards under DOLE
3. The system must be new, free from defect, and covered by warranty upon turnover.
4. All installed components must be compliant with IEC, UL, and Philippine grid/interconnection standards, when applicable.

### 3. Site Survey Requirement (Mandatory for Participation)

Only bidders who have conducted and officially documented a site survey or inspection prior to the submission of bids shall be eligible to participate.

- The Procuring Entity shall issue a *Site Inspection Certificate* to bidders who attended and completed the survey.
- This certificate must be submitted as part of the eligibility/technical documents.
- Failure to comply disqualifies the bidder from further bidding evaluation.

### 4. Scope of Work and Deliverables

The supplier shall provide labor, equipment, tools, supervision, materials, and all incidental costs necessary for the completion of the following:





#### 4.1 Supply & Delivery

Item	Description
1.	Two (2) complete 261kWh Liquid Cooled Energy Storage Integrated System includes Battery modules, racks, liquid cooling subsystem, BMS, PCS/Hybrid Inverter Transformers, switchgear, breakers, cables, control panel, monitoring hardware/software Communication interface and integration devices Manuals, drawings, schematics, and regulatory certifications
2.	200 Solar PV Panels (Highest Quality Panels) Mounting, railings, wires racks and pipes

Delivery must be door-to-site, inclusive of freight, handling, storage, taxes, permits, and insurance.

#### 4.2 Installation & Integration

The contractor shall:

1. Perform site preparation, civil/structural mounting.
2. Install and assemble all ESS components and electrical interconnections.
3. Integrate the ESS into the existing power system, including:
  - o Protection design and coordination
  - o SCADA/remote monitoring connection
4. Implement cooling system piping, circulation controls, and safety shutoffs.
5. Provide proper grounding, earthing, surge protection, and system labeling.

All installation works MUST comply with PEC, DOE, and ERC compliance guidelines.

#### 4.3 Testing, Commissioning, and Training

The contractor must conduct:

Requirement	Details
Initial Testing	Functional integrity test of each module and circuit
Commissioning	Full system load simulation and performance verification
Documentation	As-built drawings, test reports, warranty certificates
Training	At least 8 hours technical training for end-user personnel

Successful commissioning is required prior to acceptance.





## 5. Warranty, Maintenance & Post-Installation Support

- Minimum **5-year system warranty**, inclusive of parts and labor.
- Battery warranty should specify cycle life and performance guarantee.
- Supplier must provide service response terms and preventive maintenance guidelines.

## 6. Project Timeline

Phase	Duration
Site Assessment (pre-bidding)	Mandatory for bidders
Delivery of Equipment	30 calendar days after NTP
Installation & Integration	30 calendar days after delivery
Testing & Commissioning	15 calendar days after installation
Turnover & Final Acceptance	Upon successful commissioning

## 7. Final Acceptance Requirements

The Procuring Entity shall accept the project only upon full compliance with:

Approved testing & commissioning results  
As-built plans and technical documentation  
Training completion  
Warranty certificates submitted

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