



Republic of the Philippines
CATANDUANES STATE UNIVERSITY
Virac, Catanduanes

TERM OF REFERENCE
PURCHASE OF MACHINERY AND EQUIPMENT
(250KW HYBRID SOLAR FARM)

I. BACKGROUND

One of the topmost expenses of the University every month is electricity. An average of Php 700,000.00 per month or Php 8,400,000.00 per year is spent on electricity over the past five (5) years. It is in this context that the University would like to tap renewable energy as an alternative source of electricity, through the approved allocation for Annual Procurement Plan FY-2022 and Renewable Energy Act of 2008 intends to apply the sum of **Eighteen Million Four Hundred Eight Eight-Hundred Ninety-One (78/100) (PHP 18,408,891.78)** being the approved budget for procurement and implementation of the project **PURCHASE OF MACHINERY AND EQUIPMENT (250KW HYBRID SOLAR FARM)** utilizing the purchase and installation with the project duration of **NINETY (90)** calendar days.

II. PROJECT DESCRIPTION

The project will involve the **PURCHASE OF MACHINERY AND EQUIPMENT (250KW HYBRID SOLAR FARM)** of Catanduanes State University – CatSU Main Campus Virac Catanduanes based on the technical specification stated in the Terms of reference and the Building Standards and Specifications.

The project will have an Approved Budget for the Contract of **Eighteen Million Four Hundred Eight Eight-Hundred Ninety-One (78/100) (PHP 18,408,891.78)** including all taxes and applicable permits, licenses, and clearances for the project mentioned above.

The project requires the services of a solar photovoltaic services provider to undertake the procurement and installation of unit components, installation, testing, and commissioning of a 250KW Hybrid solar farm photovoltaic system, and capacity building training for Buildings and grounds services personnel and maintenance.

III. SCOPE OF WORKS

The materials and workmanship supplied shall be of the best grade and constructed and/ or installed in a practical and first-class manner. It will be completed in operation nothing being omitted in the way of labor and materials required and it will be delivered and turned over in good condition, complete and perfect in every respect.

1. Pre-construction Phase

- a. Secure all necessary permits prior to construction
- b. Prepare the PERT-CPM / S-CURVE of the construction phase
- c. Provides all other necessary documents that shall be required by the Technical Committee.

2. Construction Phase

<p>a. Detailed engineering design and structural safety assessment</p>	<p>On-site assessment of the following:</p> <ul style="list-style-type: none"> • Construction of powerhouse, PV storage facility, and perimeter fence • GHI/sun path tracking/shading analysis • Assessment of the grid infrastructure and building connection • Assessment of interconnection and synchronization of the electrical layout at existing generator project and PV solar farm
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<p>b. Procurement of unit components and other materials</p>	<p>Procurement of solar equipment for the capacity of 250kW is not limited to the following:</p> <ul style="list-style-type: none"> ● Solar panels ● Inverters ● AC-DC or DC-DC converters ● limiter, surge protection devices ● AC / DC circuit breakers ● AC / DC Isolator switch ● Aluminum frame and accessories ● Wires and cables ● Any other relevant components that are needed
<p>c. Set up and installation</p>	<ul style="list-style-type: none"> ● Clearing and grubbing ● Construction of power house and perimeter fence ● Installation of frames and brackets. ● Installation of the solar photovoltaic system, based on the final approved design.
<p>d. Testing and commissioning (including warranty period)</p>	<ul style="list-style-type: none"> ● 24/7 monitoring and regular maintenance for the first 7 working days after completion ● The contractor will assume full liability for a 5-year performance guarantee. ● The contractor also assumes liability for the manufacturer warranties of the respective system components/parts which shall have no less than a minimum warranty period of 5 years for each