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PR-2023-0904-142744



Republic of the Philippines
VISAYAS STATE UNIVERSITY
 Visca, Baybay City, Leyte

PURCHASE REQUEST

PPMP No. : 176-2-1557-2024-7-0-0

PR No.: GF-2023-09-02136

Date: 09-04-2023

Dept./Office: ODPP

Category: IT Supplies and Equipment

Section/End-User: Rafael Rosario A. Juntilla

Project Title/Code: Replacement of the VSU Power Generator-PPES 2024

Funding Source: General Fund - CO

Item #	Item Description	Unit	Qty	Unit Cost	PAR/ICS	Total Cost
1	Drone (Professional Quadcopter With 5.5" Screen)	unit	2	260,000.00		520,000.00

Specification:

Specification:

- Ready To Fly.
- Obstacle sensing: 5-way.
- Obstacle avoidance: 4-way.
- Redundant sensors: obstacle avoidance, dual compasses, dual IMUs.
- Range: 4.3 miles.
- Maximum flight time: 30 minutes.
- Top speed: 45 mph.
- Big 1-inch sensor.
- 5.5-inch video monitor for controller.
- 4K video @ 60fps.
- 20MP stills, up to 14fps bursts.
- Mechanical shutter that eliminates rolling distortion.
- Wireless compatibility
- Active-Track for locking onto and tracking subjects.

	TOTAL					520,000.00
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Purpose: To support instruction research & development in VSU campus

Checked by:

DIONESIO I. ESTUPA

Funds Available:

ALICIA M. FLORES

TWG - IT Supplies and Equipment

HEAD, BUDGET OFFICE

Signature:

Requested by:

Noted by:

Approved by:

Printed Name:

RAFAEL ROSARIO A. JUNTILLA

MARLON G. BURLAS

EDGARDO E. TULIN

Designation:

END USER

UNIT HEAD, PROJECT LEADER

PRESIDENT, VSU

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PR-2023-0904-142748

Op 9/6/23



Republic of the Philippines
VISAYAS STATE UNIVERSITY
 Visca, Baybay City, Leyte

PURCHASE REQUEST

PPMP No. : 176-2-1557-2024-7-0-0

PR No.: GF-2023-09-02135

Date: 09-04-2023

Dept./Office: ODPP

Category: **Construction
and Electrical Supplies**

Section/End-User: **Rafael Rosario A. Juntilla**

Project Title/Code: **Replacement of the VSU Power
Generator-PPES 2024**

Funding Source: **General Fund - CO**

Item #	Item Description	Unit	Qty	Unit Cost	PAR/ICS	Total Cost
1	Industrial and Heavy-Duty Battery Operated Self-Propelled Articulating Boom Lift	unit	1	3,400,000.00		3,400,000.00

Specification:

Specification:

- Max. Working Height: 22m
- Max. Platform Height: 20m
- Max. up and over clearance: 9.4m
- Max. Working Radius: 12.23m
- Platform Width: 0.76m
- Platform Length: 1.8m
- Height: Stowed 2.38m
- Length: Stowed 8.99m
- Width: 2.49m
- Wheelbase: 2.5m
- Ground Clearance: Center 0.3m
- Max. Lift Capacity: 256kg/350kg
- Number of platform occupants: 2/3
- Platform rotation: $\pm 80^\circ$
- Turntable rotation: 355°
- Vertical jib rotation (up/down): $\pm 70^\circ$
- Drive speed: Stowed 4.5km/h
- Gradeability: Stowed 40%
- Max. Working angle (Tilt sensor activation): 3°
- Turning radius (outside): 5.0m
- Drive and steer: 4x2
- Weight: 10000kg
- Battery: 48V/420Ah
- Control voltage: 24V
- Pump power: 12kw
- Drive motor: 3.3kw
- Standard compliance: GB25849-2010, BS EN 280:2013+A1:2015

General Requirement:

- Warranty: 2 years
- Life-long technical support and assistance

2	Industrial and Heavy-Duty Cable Locator Set	set	1	90,000.00		90,000.00
Specification:						

Specification:

- Professional cable locator
- Voltage measurement range for Transmitter: 12 V, 50 V, 120 V, 230 V, 400 V
- Frequency range for Transmitter: 0 - 60 Hz
- Output signal for Transmitter: 125 kHz
- Voltage for Transmitter: Up to 400 V AC/DC
- Tracing depth cable location for Receiver: 0 - 2.5 m wall/underground cables
- Main voltage detection for Receiver: 0 - 0.4 m
- Operating temperature: Transmitter & Receiver (0 to 40°C)
- Storage temperature: Transmitter & Receiver (-20°C to +60°C)
- Humidity (without condensation): Transmitter & Receiver (Max. 80% relative)
- Operating altitude: Transmitter & Receiver: (Up to 2000 m)
- Electrical safety EN 61010-1
- Overvoltage category Cat. III 300 V
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General Requirement:

- Warranty 2 years
- Provide technical assistance and training on product usage and service center within the Cebu or Manila.
- Product Manufacturer/developer at least 15 years in the Electro-mechanical maintenance industry

3	Industrial and Heavy-Duty Earth Ground Loop and Leakage Clamp	set	1	182,000.00		182,000.00
Specification:						

Specification:

- Test the grounding components of equipment in hard-to-reach spaces, including areas that are indoors or fully paved and do not permit driving auxiliary test stakes.
- AC Leakage Current Measurement: Identify AC leakage without disconnecting your earth ground stake from the grounding system.
- Heavy-duty clamp jaw stays in alignment and in calibration even in every day, on-the-job industrial environments
- User-defined high/low alarm limits, for rapid measurement evaluation
- Selectable band-pass filter function removes unwanted noise from the AC leakage current measurement.
- Electrical specification: Maximum voltage to earth ground (1000V), Battery type (AA alkaline IEC/EN LR6 (x4)), Frequency range (40 Hz to 1 kHz), Ingress Protection (IEC/EN 60529: IP30 with jaw closed), LCD (Digital reading, 999 counts; Refresh rate, 4 per second), Operating temperature (-10 °C to + 50 °C), Storing temperature (-20 °C to + 60 °C), Operating humidity (Non-condensing), Operating altitude (2000 m or 6561 feet), Storing altitude (12 000 m or 39,370 feet), Reference Temperature (23 °C ±5 °C or 73 °F ±9 °F), Measurement (IEC/EN 61010-2-032: CAT IV 600 V / CAT III 1000 V), Current clamp for leakage current measurements (IEC/EN 61557-13: Class 2, 730 A/m), Resistance to earth (IEC/EN 61557-5), Effectiveness of the Protective Measures (IEC/EN 61557-16), Electromagnetic compatibility (EMC)(IEC/EN 61326-1: Portable Electromagnetic Environment, CISPR 11: Group 1, Class B, IEC/EN 61326-2-2,KCC Class A equipment, FCC 47 CFR 15 subpart B)
- Earth Ground Clamp
- Loop resistance standard
- Safety information guide & Quick reference guide
- Hard case & (4) AA batteries

General Requirement:

- At least one-year warranty
- Provide technical assistance and training on product usage and service center within the Cebu or Manila.
- Product Manufacturer/developer at least 15 years in the Electro-mechanical maintenance industry.

4	Industrial and Heavy-Duty Earth Ground Tester Kit	set	1	400,000.00		400,000.00
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Specification:

Specification:

- Memory: Internal memory storage up to 1500 records accessible via USB port
- Measuring Function: Interference voltage and frequency, earthing resistance 3- and 4-pole with/without clip-on current transformer, resistance 2-pole with AC, 2-and 4-pole with DC
- Display: 4-digit (2999 Digit) - 7 segment liquid crystal display, with improved Visibility.
- Operation: Central rotary switch and function keys.
- Operating Temperature: -10°C to 50°C (14°F to 122°F)
- Storage Temperature: -30°C to 60°C (-22°F to 140°F)
- Temperature Coefficient: $\pm 0.1\%$ of reading/ $^{\circ}\text{C} < 18^{\circ}\text{C} > 28^{\circ}\text{C}$
- Protection: Complied with EN60529 (IP56 for case, IP40 for battery door)
- Max Voltage: Warning-socket clamp E, ES, S or H

Max Urms = 250V (pertains to misuse)

- Safety: Protection by double and/or reinforced insulation. Max. 50 V to earth per IEC61010-1. Pollution degree 2
- Quality Standard: DIN ISO 9001 compliance in development, designed and manufacturing
- External field influence: Complies with DIN 43780 (8/76)
- Measure of Interference Voltage DC + AC: Full wave rectification of measuring limits of error & method, Measuring range (1V – 50V), Display range (0.0V – 50V), Frequency range (DC/AC 45Hz – 400Hz), Accuracy ($\pm 5\%$ of rdg + 5 digit), Internal resistance (Approx. 1.5 M Ω)
- Measure of Interference Frequency: Measurement of oscillation period of the interference voltage, Measuring Range (6.0 Hz to 400 Hz), Display range (16.0 Hz to 299.9 Hz to 999 Hz), Accuracy ($\pm 1\%$ of rdg + 2 digit)
- Earthing Resistance: Current and voltage measurement with probe as IEC61557-5, Open circuit voltage (20/48 V, AC), Short circuit current (250 mA AC), Noise rejection (120 dB)
- Electrical Measurement: Position (Reference position $\pm 90^{\circ}$), Temperature (0°C and 35°C), Resistance of the probes & auxiliary earth electrodes (0 to 100 x RA? 50 k Ω), System frequency (99% to 101% of the nominal frequency), System voltage (85% to 110% of the nominal voltage), Operating error ($B[\%] = \pm B/\text{fiducial value} \times 100\%$, A = intrinsic error, En = variations, R = routine test, T = type test), Accuracy ($\pm 2\%$ of rdg + 2 digit), Measuring time (Typical 8 seconds with a fixed frequency 30 sec. max. with AFC & complete cycle of all measuring frequencies) Measuring error of RH & RS (Typ. 10% of RE + RS + RH), Max. probe resistance & auxiliary earth electrode resistance (? 1 M Ω)
- Automatic Switchover of Measuring Resolution in Dependence to Auxiliary Earth Electrode Resistance RH
- Selective Measurement of the Earthing Resistance (RE Clamp): (Current and voltage measurement with probe as per EN61557-5 & current measurement in the individual branch with additional current transformer.
- Resistance Measurement (R AC/DC): (Current and voltage measuring method as per IEC61557-4 possible)
- Compensation of Lead Resistance (RK)
- Stakeless Ground Loop Measurement (Two Clamp Stakeless)
- GEO Earth Ground Tester
- User's Manual & Quick Reference Guide
- USB Cable
- Professional Carrying Case
- 2 Clamps, 4 Earth Ground Stakes & 3 Cable Reels

General Requirement:

- At least one-year warranty
- Provide technical assistance and training on product usage and service center within the Cebu or Manila.
- Product Manufacturer at least 15 years in the Electro-mechanical maintenance industry.

5	Industrial and Heavy-Duty Infrared Camera	unit	1	916,000.00		916,000.00
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Specification:

Specification:

- Detector resolution: 640 x 480
- Super Resolution: Captures and combines 4x the data to create a 1280 x 960 (614,400 pixels) image
- Infrared Resolution: 307,200 pixels
- Laser distance meter
- Advanced manual focus
- Ruggedized touchscreen display with 3.5 inch (landscape) 640 x 480 LCD
- Rugged, ergonomic design for one-handed use Yes
- Digital zoom 2x and 4x
- Temperature measurement range: -20 °C to 1000 °C (-4 °F to 1832 °F)
- Accuracy: ±2 °C or 2% (at 25 °C nominal, whichever is greater)
- Thermal sensitivity (NETD)* ?0.05 °C at 30 °C target temp (50 mK)
- Wireless connectivity and compatibility with IOS, Android and LAN
- Lenses: *Standard lens* IFOV (spatial resolution) 0.93 mRad, D:S 1065:1, Field of view 34 °H x 24 °V, Minimum focus distance 15 cm (approx. 6 in), IR-Fusion® technology Picture-In-Picture and full screen 2x *telephoto smart lens* IFOV (spatial resolution) 0.46 mRad, D:S 1529:1, Field of view 17 °H x 12 °V, Minimum focus distance 45 cm (approx. 18 in), IR-Fusion® technology Picture-In-Picture and full screen

4x telephoto smart lens IFOV (spatial resolution) 0.23 mRad, D:S 2941:1, Field of view 6 °H x 4.5 °V, Minimum focus distance 1.5 cm (approx. 60 in),

Wide-angle smart lens IFOV 1.85 mRad, D:S 377:1, Field of view 48 °H x 34 °V, Minimum focus distance 15 cm (approx. 6 in), IR-Fusion® technology Full screen

- Battery: Batteries (field-replaceable, rechargeable), Two lithium ion smart battery packs with five-segment LED display to show charge level, Battery life 2-3 hours per battery, 2.5 hours to full charge, Battery charging system Two-bay battery charger or in-imager charging.
- Infrared spectral band: 7.5 ?m to 14 ?m (long wave)
- Operating temperature -10 °C to +50 °C (14 °F to 122 °F)
- Storage temperature -20 °C to +50 °C (-4 °F to 122 °F)
- Relative humidity 10% to 95% non-condensing
- Safety IEC 61010-1: Overvoltage category II, Pollution Degree 2
- Electromagnetic compatibility: IEC 61326-1: Basic EM environment. CISPR 11: Group 1, Class A

General Requirement:

- Warranty: 2 years
- Calibration cycle: Every 2 years
- Provide technical assistance and training on product usage and service center within the Cebu or Manila.
- Product Manufacturer/developer at least 15 years in the Electro-mechanical maintenance industry

6	Industrial and Heavy-Duty Precision Acoustic Imager	unit	1	2,062,000.00		2,062,000.00
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Specification:**Specification:**

- Quick and easy partial discharge detection & PD testing
- Sensors: Frequency band (2 kHz to 100 kHz), Detection range (0.5 to > 120 meters -1.6 to > 393 feet), Field view ($63^{\circ} \pm 5^{\circ}$), Nominal frame rate (25FPS)
- Built-in digital camera (visible light): (FOV $63^{\circ} \pm 5^{\circ}$ and fixed lens)
- Display: 7" LCD with backlight, under-sunlight readable, Capacitive Touch screen, SoundMap image acoustic image, 1280 x 800 (1,024,000 pixels) resolution
- Image storage: Storage capacity at least 999 picture files and 20 video files, blended and soundmap jpg, png and mp4 format, 5 minutes video length and USB-C for data transfer
- Acoustic measurement: Measurement range (12.1 dB SPL to 114.6 dB SPL ± 1 dB SPL 2 kHz, 4.4 dB SPL to 101.2 dB SPL ± 2 dB SPL 19 kHz, 12.8 dB SPL to 119.2 dB SPL ± 1 dB SPL 35 kHz, 19.8 dB SPL to 116.1 dB SPL ± 3 dB SPL 52 kHz, z, 41.4 dB SPL to 129.0 dB SPL ± 1 dB SPL 80 kHz, 54.4 dB SPL to 135.5 dB SPL ± 1 dB SPL 100 kHz)
- Software: Intuitive user interface, Trend graphs (Frequency and dB scale), Spot markers (dB level reading at center point of the image)
- Battery: Batteries (field-replaceable, Rechargeable, 2 x Li-ion battery), Battery life (6 hours/battery includes spare battery), Battery charging (External dual-bay, 3-hour charging time)
- Standard palettes: 3: Grayscale, Ironbow, Blue-Red
- Operating temperature: 0°C to 40°C (32°F to 104°F)
- Storage temperature: -20°C to 70°C (-4°F to 158°F) Without batteries
- Relative humidity: 10 % to 95 % non-condensing
- Ingress Protection (IP): IP40 protection
- Self-diagnostic notification: Array-health test to identify when microphone array needs attention
- Supported languages: Dutch, English, Finnish, French, German, Italian, Japanese, Korean, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese
- Safety Compliant: IEC 61010-1 & RoHS compliant
- Electromagnetic Compatibility (EMC): IEC 61326-1: CISPR 11: Group 1, Class A, (KCC) Class A Equipment, (FCC) 47 CFR 15 subpart B.
- AC power supply and battery pack charger (including universal AC adapters)
- Two rugged lithium ion smart battery packs & USB cable
- Rugged, hard carrying case & adjustable hand strap and neck strap

General Requirement:

- Warranty: 2 year
- Provide technical assistance and training on product usage and service center within the Cebu or Manila.
- Product Manufacturer/developer at least 15 years in the Electro-mechanical maintenance industry.

7	Industrial and Heavy-Duty Thermal Camera	unit	1	310,000.00		310,000.00
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Specification:

Specification:

- Detector resolution: 640 x 480
- Super Resolution: Captures and combines 4x the data to create a 1280 x 960 (614,400 pixels) image
- Infrared Resolution: 307,200 pixels
- Laser distance meter
- Advanced manual focus
- Ruggedized touchscreen display with 3.5 inch (landscape) 640 x 480 LCD
- Rugged, ergonomic design for one-handed use Yes
- Digital zoom 2x and 4x
- Temperature measurement range: -20 °C to 1000 °C (-4 °F to 1832 °F)
- Accuracy: ± 2 °C or 2% (at 25 °C nominal, whichever is greater)
- Thermal sensitivity (NETD)* ≈ 0.05 °C at 30 °C target temp (50 mK)
- Wireless connectivity and compatibility with IOS, Android and LAN
- Lenses: *Standard lens* IFOV (spatial resolution) 0.93 mRad, D:S 1065:1, Field of view 34 °H x 24 °V, Minimum focus distance 15 cm (approx. 6 in), IR-Fusion® technology Picture-In-Picture and full screen 2x *telephoto smart lens* IFOV (spatial resolution) 0.46 mRad, D:S 1529:1, Field of view 17 °H x 12 °V, Minimum focus distance 45 cm (approx. 18 in), IR-Fusion® technology Picture-In-Picture and full screen

4x telephoto smart lens IFOV (spatial resolution) 0.23 mRad, D:S 2941:1, Field of view 6 °H x 4.5 °V, Minimum focus distance 1.5 cm (approx. 60 in),

Wide-angle smart lens IFOV 1.85 mRad, D:S 377:1, Field of view 48 °H x 34 °V, Minimum focus distance 15 cm (approx. 6 in), IR-Fusion® technology Full screen

- Battery: Batteries (field-replaceable, rechargeable), Two lithium ion smart battery packs with five-segment LED display to show charge level, Battery life 2-3 hours per battery, 2.5 hours to full charge, Battery charging system Two-bay battery charger or in-imager charging.
- Infrared spectral band: 7.5 μ m to 14 μ m (long wave)
- Operating temperature -10 °C to +50 °C (14 °F to 122 °F)
- Storage temperature -20 °C to +50 °C (-4 °F to 122 °F)
- Relative humidity 10% to 95% non-condensing
- Safety IEC 61010-1: Overvoltage category II, Pollution Degree 2
- Electromagnetic compatibility: IEC 61326-1: Basic EM environment. CISPR 11: Group 1, Class A

General Requirement:

- Warranty: 2 years
- Calibration cycle: Every 2 years
- Provide technical assistance and training on product usage and service center within the Cebu or Manila.
- Product Manufacturer/developer at least 15 years in the Electro-mechanical maintenance industry

8	Industrial and Heavy-Duty Three-Power Quality Analyzer	unit	1	900,000.00		900,000.00
Specification:						

Specification:

- Voltage inputs: Number of inputs (4 inputs, 3 phases and neutral referenced to PE 5 connectors), Measurement category (1000 V CAT III / 600 V CAT IV), Maximum input voltage (1000 V rms / 1000 V dc (1700 Vpk)), Nominal voltage range (Wye and single phase: variable 50V – 1000V) (Delta: Variable 100V – 1000V) IEC 61000-4-30 Class A compliance, Input impedance (10 M Ω between P-P & P-N, 5 M Ω between P-PE & N-PE), Bandwidth (DC to 30 kHz for PQ measurements), Resolution (24-bit synchronous sampling), Sampling frequency (80 kS/s at 50/60 Hz), Scaling (1:1, variable for use of potential transformers)
- Standard compliance: Power (IEEE 1459), Harmonics (IEC 61000-4-7: Class 1), IEEE 519 (short time and very short time harmonics), Flicker (IEC 61000-4-15 Class F1) Power quality (IEC 61000-4-30 Class A, IEC 62586 PQI-A-PI), Power quality compliance (EN 50160 + GOST + NEQUAL + NETCODE + FOL)
- Environmental specifications: Operating temperature range –(10 °C to 50 °C), Storage temperature range (-20°C to 60°C)
- IP Rating (IEC 60529: IP50)
- Vibration (IEC 60721-3-3 / 3M2)
- Power supply: Voltage range (100V – 600V -15 % / +10%), Power consumption (Max. 40VA), Mains frequency 50/60 Hz
- UPS: Li-Ion battery BP1770 with extended temperature range, On-battery runtime: 1.5 hours
- Safety: IEC 61010-1: Pollution Degree 2
- Power supply: Overvoltage Category IV 600 V with Mains Adapter MA-C8: Overvoltage Category II 300 V

General Requirement:

- Warranty Analyzer: 2 years (battery not included)
- Accessories: 1 year (including battery)
- Calibration cycle 2 years
- Provide technical assistance and training on product usage and service center within the Cebu or Manila.
- Product Manufacturer/developer at least 15 years in the Electro-mechanical maintenance industry

9	Supply, Delivery, Installation, Testing and Commissioning of 3-unit Generator set with Synchronizing	lot	1	33,220,000.00		33,220,000.00
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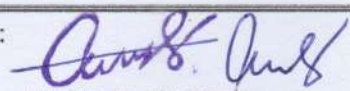
Specification:

Supply, Delivery, Installation, Testing and Commissioning of the following:

- 3-Unit 625kva Brand New Diesel AC Diesel Generating Sets

Specification:

- Standby Rating – 625kva/ 500kw
- Voltage Output – 220/ 440Vac
- Ampere Rating (Full Load) – 1569 amp
- Phase/Frequency/Speed – 3 phase/ 60 hz/ 1800 rpm
- DIESEL POWERED ENGINE, 6 Cylinder, In-line, turbo charged, after cooled, 4 stroke cycle, electronic actuated governor, water radiator cooling system, electric starting. Close coupled to A/C-brushless Alternator, self – exciting, self – regulating, Insulation Class H, single bearing and with built in Automatic Voltage Regulator.
- DIGITAL CONTROL PANEL with display of all parameters; Equipped with Automatic Shut-Off sensors for engine low-oil pressure, high coolant temperature, over-crank, over/under speed and over/under frequency. Also equipped with EMERGENCY Push Button Shut – off Switch.
- SOUNDPROOF WEATHER PROTECTIVE CANOPY - mounted on a heavy-duty steel frame with vibration isolators, base fitted fuel tank with capacity capable for eight (8) hours continuous operations at full load.
- Synchronizing Panel with HMI/SCADA & Automatic Transfer Switch, 5000amp
- Low Voltage Switch Gear (LVSG) and Wire Connection/Topping
- 2 units (2000 Liters and 1000 Liters) Day Tanks and piping fuel line connection from day tanks to generator set fuel tanks.
- 1500kVA Pad Mount Distribution Transformer
- 3-phase, 60Hz
- Primary Voltage: 13200Y/7620 with 2-2.5% taps FCAN/FCBN
- Secondary Voltage: 220/440 Delta with Brought-out Neutral
- Primary Winding: Copper
- Secondary Winding: Aluminum
- Insulating liquid: Mineral Oil (PCB Free)
- Temperature Rise: 65o C Rise
- Bayonet Fuse
- Pressure Relief Valves
- Spade Terminal Low Voltage Bushings
- Oil Level Gauge (Dial type)
- Drain Valve
- Externally Operated Tap Changer
- Grounding Pads
- Separate Xo Bushing
- Steel Barrier
- Certification: Testing Certificate from Accredited Distribution Utilities/Electric Cooperative.

				TOTAL								41,480,000.00			
Purpose: Replacement of the VSU Power Generator to Support Instruction, research & development in VSU campus															
Checked by:								Funds Available:							
 PHLOEM D. GALUPO								 ALICIA M. FLORES <i>for co-2024</i>							
TWG - Construction and Electrical Supplies								HEAD, BUDGET OFFICE							
Signature:		Requested by:				Noted by:				Approved by:					
Printed Name:		RAFAEL ROSARIO A. JUNTILLA				MARLON G. BURLAS				EDGARDO E. TULIN					
Designation:		END USER				UNIT HEAD, PROJECT LEADER				PRESIDENT, VSU					