



Republic of the Philippines

DEPARTMENT OF SCIENCE AND TECHNOLOGY

**Philippine Atmospheric, Geophysical and Astronomical Services
Administration (PAGASA)**

**TERMS OF REFERENCE FOR THE SUPPLY, DELIVERY, INSTALLATION,
TESTING, TRAINING, AND COMMISSIONING OF WEATHER MEDIA
PRODUCTION SYSTEM**

A.BACKGROUND

PAGASA began the video recording of the daily weather forecast updates twice a day and uploaded to YouTube on 5 December 2016. Shortly thereafter, PAGASA also began the live streaming of updates as well as press briefings for tropical cyclones on Facebook.

This project aims to improve the current delivery of weather forecasts thru the Social Media platform of YouTube and Facebook, by the acquisition of video and audio equipment that conforms to broadcast standards.

B.APPROVED BUDGET FOR THE CONTRACT (ABC)

The Approved Budget for the Contract is Eleven Million Nine Hundred Eighty-Eight Thousand Eight Hundred (Php 11,988,800.00) inclusive of VAT and all applicable government taxes and permits.

C.PLACE AND DATE OF DELIVERY

The winning bidder shall supply and deliver the deliverables at PAGASA Weather and Flood Forecasting Center (WFFC) Building for ninety (90 c.d.) calendar days from receipt of the Notice to Proceed (NTP).

D.DELIVERABLE ITEM

Item No.	Item Name	Quantity
1	Compact Cellular High Efficiency Video Coding (HEVC) Field Unit for On the Go Live Streaming Transmitter with 2 GSM dongles	2 sets
2	Receiver Server with 4 Outputs includes 23 inches Monitor, USB Keyboard and USB Mouse	1 set
3	Cellular Extension with Wireless Remote kit and Management software	1 set
4	4K XDCAM Camcorder	4 sets
5	Video Tripod Kit	4 sets
6	Integrated Digital Wireless Body pack Lavalier Microphone System	4 sets

7	Wireless Headset Communication System	2 sets
8	Teleprompter with Bluetooth Remote Controller including software	2 sets
9	PC Workstation for Teleprompter with 24" LED Monitor, wireless keyboard and wireless Mouse with HDMI splitter	1 set
10	Thunderbolt 3 laptop	2 sets
11	Server for the Production Switcher, graphics, online streamer, recorder, audio mixer and multiviewer	2 sets
12	Audio Interface	2 sets
13	Video Monitor	2 sets
14	Multiviewer Monitor	1 set
15	On-Air Monitor	2 sets
16	Distribution Amplifier SDI Video Inputs	2 sets
17	SDI to HDMI Converter with Power Supply	2 sets
18	Hardpanel	2 sets
19	Software application for all-in-one production switcher, graphics, online streamer, recorder, audio mixer and multiviewer	2 sets
20	Console Table and 2 pieces Chairs	1 set
21	4K UHD LARGE FORMAT TOUCH SCREEN DISPLAY	1 set
22	Bi-Color PRO Studio LED Flood Light with DMX	3 sets
23	Variable Color LED Light	4 sets
24	Variable Color LED Panel	4 sets
25	Bi-Color Soft Panel Half x 1 Studio and Field LED Light with DMX	8 sets
26	Professional Stage Setter-24 Dimming Console	1 set
27	Bi-Color LED Light With Battery, Charger Kit and stand	2 sets
28	DMX SPLITTER	1 set
29	UPS with 18 RU rack	1 set
30	Factory Acceptance Test and Training for Three (3) Pax for Five Days excluding travel time	1 lot
31	2 units 3.0 TR Wall-mounted Inverter Air conditioning Unit	2 sets

E.SPECIFICATIONS

Item No.	Quantity	Item Name	Specifications
1	2 sets	Compact Cellular High Efficiency Video Coding (HEVC) Field Unit for On the Go Live Streaming Transmitter with 2 GSM dongles	Video resolutions: 1080p50/60/25/30/24, 1080i50/60, 720p50/60/25/30/24, PAL, NTSC Video interfaces: 3G/HD/SD-SDI, HDMI 1.4 Video encoder: HEVC/H.265, H.264 Audio Encoder: AAC-HE/LC, 2 audio channels Portability: Professional-grade side-pouch, belt-attachment or camera mounted Simultaneous bonding: 6 network links Power source: 3 hours' internal battery Local control: Full monitoring and control using local display and user friendly rotating jog Remote control: Full web-based remote control from smartphones, laptops, tablets or web browsers Display information: Video preview; per-network cellular connectivity status incl. throughput, network delay etc. Resiliency and Quality: Includes Reliable Transport algorithms such as automatic Adaptive Bit Rate (ABR), automatic Forward Error Correction (FEC) and other lost packet recovery algorithms Modes: Live, Store & Forward (two quality levels), File transfer (FTP), Data Bridge with access point Physical interfaces: 2 x USB 2.0, micro USB, RJ-45 Ethernet, 3.5mm in/out audio jack, micro-SD card, SIM cards Wireless interfaces: WiFi 802.11 a,b,g,n,ac support with internal MIMO antennas, 2 x internal 3G/4G/LTE-Advanced modems with high-efficiency antennas for worldwide support
2	1 set	Receiver Server with 4 Outputs includes 23 inches Monitor, USB Keyboard and USB Mouse	Form factor: 1U rack mountable server Video decoder: H.264/HEVC SDI outputs: 4 simultaneous SDI outputs IP outputs: RTMP for streaming to CDNs or social media, MPEG-TS and NDI Resolutions: 1080p50/60/25/30/24, 1080i50/60, 720p50/60/25/30/24, PAL, NTSC

			<p>HW interfaces: 3G/HD/SD-SDI</p> <p>Network interface: 1000/100/10 RJ-45</p> <p>Network interface count: 2</p> <p>Control: Full control using cloud management</p> <p>Preview: Transcodes and outputs preview</p>
3	1 set	cellular extension with wireless remote kit and management software	<p>device use to add signal strength to the transmitter device via wi-fi or ethernet connection. with internal sims and can be configured via tripod or vehicle network connections: up to 6 4g lte / 3g cellular, ethernet, wi-fi mimo 2.4/5.8g with wireless kit, connectors: dc in/dc out/ethernet, the 6 sims can be bonded to the transmitter, power handling: ac 100-240v/dc 12-19v, battery support: ab/v-mount (for tripod configuration) ~5 hours operation time with standard 90wh battery frequencies: 700mhz - 900mhz & 1.7ghz - 2.6ghz operating temperature: -40c to +60c (-40f to 140f) wireless remote kit for cellular extension: effective range: up to 800 m (875 yd) with line of sight</p>
4	4 sets	4k xdcam camcorder	<p>single 1" exmor rs cmos sensor uhd 4k (3840 x 2160) up to 30p hd up to 120 fps</p> <p>lens with 12x optical zoom</p> <p>18/24x clear image zoom/48x digital zoom</p> <p>discrete manual focus, zoom, iris rings</p> <p>xavc, avc/h.264, avchd 2.0, mpeg-4</p> <p>slow and quick motion function</p> <p>two sd memory card slots, wi-fi</p> <p>2 x 3-pin xlr audio inputs</p>
5	4 sets	Video Tripod Kit	<p>Load Capacity: 8.8 lb (4 kg), Maximum Height: 59.0" (150 cm), Minimum Height: 27.6" (70.1 cm), Folded Length: 30.3" (77 cm), Weight 7.9 lb (3.6 kg)</p>
6	4 sets	Integrated Digital Wireless Body pack Lavalier Microphone System	<p>Transmitter and Receiver</p> <p>Wireless Transmission: Analog UHF Number of RF Channels: 960</p> <p>RF Bandwidth: 24 MHz</p> <p>Frequency Step Size: 25 kHz</p> <p>Max Operating Range: 328.1' / 100 m (Line of Sight)</p>
7	2 sets	Wireless Headset Communication System	<p>4 Single Ear Headsets</p> <p>Over 1000' Range</p> <p>Headsets' Mic Boom Swivels 270°</p> <p>Includes 8-Port Charging Station</p> <p>Includes Batteries & Case</p> <p>Lasts up to 6 Hours on a 3 Hour Charge</p>
8	2 sets	Teleprompter with Bluetooth Remote Controller including software	<p>software and remote allow users to produce professional results at low cost. Special 60/40 Glass allows the presenter to read the script and the camera to see the subject. The prompter frame is designed to allow stand alone, in front of camera lens prompting. The black cloth lens snood is adjustable to adapt for a wide variety of camera lenses</p>
9	1 set	PC Workstation for Teleprompter with 24" LED Monitor, wireless keyboard and wireless Mouse with HDMI splitter	<p>CPU: Intel Core i7-7700 Graphics: Intel HD Graphics 630; AMD Radeon RX 570 RAM: 32GB Storage: 1TB HDD; 512GB SSD</p>
10	2 sets	Thunderbolt 3 laptop	<p>15.6" 4K UHD (3840 x 2160) InfinityEdge Anti-Reflective Touch IPS</p> <p>100% AdobeRGB 500-Nits display / 9th Generation Intel Core i7-9750H (12MB Cache, up to 4.5 GHz, 6 cores) / 16GB DDR4-2666MHz, 2x8G / 512GB M.2 PCIe NVMe SSD / NVIDIA GeForce GTX 1650 4GB GDDR5 / Win 10 Pro 64 bit, Microsoft Office, Adobe Premiere Pro CC</p>
11	2 sets	Server for the Production Switcher, graphics, online streamer,	<p>3.6Ghz Core i7 7700 4-Core Processor</p> <p>Chipset/FSB: Intel® C236</p> <p>2x 8GB DDR4 2400 non ECC in 4 DIMMS</p> <p>Up to 64GB Unbuffered ECC/non- ECC UDIMM DDR4 2400</p> <p>Expansion slot: 2 PCI-E 3.0 x16 (run at 16/NA or 8/8), 3 PCI-E</p>

		recorder, audio mixer and multiviewer	3.0 x1 (in x4), and 2 5V PCI 32-bit slots · LAN: Onboard Single GbE LAN with Intel® i210-AT, Single GbE LAN with Intel® i219LM · VGA: on board · Galax GTX1050 Ti 4GB 128bit DDR5 · 6 USB 3.0 (2 rear + 4 via header(s)) 8 USB 2.0 (2 rear + 6 via header(s)) · Intel C236 controller for 8 SATA3 (6 Gbps) ports · Onboard RAID 0, 1, 5, 10 support (Check for OS Compatibility) · 1x Kingmax 120GB SSD 2.5" · 4 x 2tb 3.5" fixed drive bays · USB keyboard and mouse · Power Supply: 500W Bronze Single Power Supply · Cooling System: 1x 12cm (1850rpm) rear exhaust fan · Form Factor: Mid Tower -Win 10 Pro 64 bit FQC-08929 Win Pro 10 64Bit Eng Intl 1pk DSP OEI DVD Graphic card HD inputs :4 Cameras + 8 Inputs + Instant Replay Outputs: 1080p recording and streaming Capture Card: 8x HD-SDI IN/OUT
12	2 sets	Audio Interface	4 analog in/out, 2 digital in/out, 2 headphone out, and MIDI in/out
13	2 sets	Video Monitor	23 inches Monitor with HDMI interface
14	1 set	Multiviewer Monitor	43 Inches Screen Display
15	2 sets	On-Air Monitor	32 Inches Screen Display
16	2 sets	Distribution Amplifier SDI Video Inputs	Switchable between SD, HD and 6G-SDI. SDI Video Outputs: 8 outputs automatically match the SDI video input. Reclocking: Yes Multi Rate Support: Auto detection of SD, HD or 6G-SDI.
17	2 sets	SDI to HDMI Converter with Power Supply	SD/HD/3G-SDI Input HDMI and SDI Loop Outputs Supports SD and HD Signals Automatic Input Signal Detection Software Control Power & Firmware Updates via USB 2.0 International USB Power Supply Included
18	2 sets	Hardpanel	Keys: 15 x customizable LCD keys Interface: Integrated USB 2.0
19	2 sets	Software application for all-in-one production switcher, graphics, online streamer, recorder, audio mixer and multiviewer	Maximum Resolutions: 4096 x 2160, Overlay Channel: 4, Recording: 2 recorders, Capable of Streaming, Fullscreen output, External output, Professional Colour Correction, instant replay (4 cameras), Multiviewer, Scripting and PTZ control, With built-in 100+ Animated Titles, ScoreBoards, Tickers and custom animated tiles, Provides the ability to automate switching tasks or play multiple videos sequentially
20	1 set	Console Table and 2 pieces Chairs	Fabricated wooden console table laminated counter top finished with 2 chairs
21	1 set	4K UHD LARGE FORMAT TOUCH SCREEN DISPLAY	100" Ultra HD LCD displays Wide color gamut Built-in speakers and OPS (open pluggable specs) slot Interactive touch model available Protective Glass: 4mm with AG coating Touch Technology: IR 20-point touch OS Compatibility: Windows 7, 8, 10, Mac OSX and Linux Display Resolution: Ultra HD (3840 x 2160) HD format: 4K UHD 2160p Screen Size: 100 in. (diagonal) Aspect Ratio: 16:9 Display Active Area: 86.7" x 48.8" (2203.2mm x 1239.3mm) Backlight: LED Brightness (w/touchscreen): 630 nits Response Time (typ): 6.5 ms Frame Rate: 60Hz

			Contrast Ratio (typ): 3000:1 Pixel Pitch: 0.5735mm x 0.5735mm Color Gamut: 98% NTSC External Connections: DisplayPort 1.2 x 2, HDMI 2.0 x 2 (HDCP 2.2), HDMI 1.4 x 2, VGA x 1, OPS x 1, OPS USB 2.0 x 2, OPS USB 3.0 X 1 Multi-Source Views: PiP, Dual, Quad Display Control: IR, RS-232, LAN, Keypad Fanless Design
22	3 sets	Bi-Color PRO Studio LED Flood Light with DMX	5 pin XLR, 60W , 5.6 lb / 2.54 kg
23	4 sets	Variable Color LED Light	3/5pin XLR, 90w, 15 lb / 6.8 kg
24	4 sets	Variable Color LED Panel	3/5pin XLR, 160w, 15 lb / 6.8 kg
25	8 sets	Bi-Color Soft Panel Half x 1 Studio and Field LED Light with DMX	5-Pin XLR, 51 W, 4 lb / 1.8 kg
26	1 set	Professional Stage Setter-24 Dimming Console	24-Channel DMX Dimming Console 2x12, 12x12, and 1x24 Operating Modes 12 Scene Master Playbacks MIDI Compatible
27	2 sets	Bi-Color LED Light With Battery, Charger Kit and stand	Beam Angle: 45° Fixture Dimensions 10.0 x 10.4 x 1.8" / 260.0 x 265.0 x 48.0 mm Fixture Weight 2.0 lb / 0.9 kg With light stand
28	1 set	DMX SPLITTER	Digital Multiplex Splitter
29	1 set	UPS with 18 RU rack	5KVA with battery modules and rack brackets, 18RU rack
30	1 lot	Factory Acceptance Test and Training for Three (3) Pax for Five Days excluding travel time	
31	2 sets	3.0 TR Wall-mounted Inverter Air conditioning Unit	Single phase, 220/230V, 2450 watts, EER rating 11, 60Hz, Includes A/C installation

F. TRAINING

The Factory Acceptance Test (FAT) and training shall be conducted at the factory site to be witnessed and accepted by three (3) PAGASA personnel within five (5) calendar days excluding travel time.

All related expenses during the FAT and Factory training, such as, but not limited to, round trip airfare, local transportation, lodging/accommodation, training materials and allowable travel expenses based on the prevailing UNDP-DSA rates for each participant shall be borne by the winning Bidder.

G. SYSTEM AND EQUIPMENT WARRANTY

One-year equipment (parts) warranty will start from the date of acceptance. Warranty includes version upgrades or updates, troubleshooting and technical support based on 24x7 via email provided by the supplier.