

TERMS OF REFERENCE

PROCUREMENT OF WIFI NETWORK INFRASTRUCTURE UPGRADE

I. BACKGROUND

Wi-Fi is a wireless networking technology that allows devices such as computers (laptops and desktops), mobile devices (smart phones and wearables), and other equipment (printers and video cameras) to interface with the Internet. It also permits these devices and wireless-based technologies to exchange information with one another, creating a network. Wireless Internet connectivity runs through a router.

In 2016, the Energy Regulatory Commission (ERC) commenced the last project on Wi-Fi infrastructure, that was installed within its main office. As Wi-Fi technologies are quickly updating, ERC's day-to-day business operations are heavily affected on the obsolescence of its Wi-Fi currently installed especially to the personnel who rely on wireless devices.

Thus, the upgrading of the Wi-Fi network of the ERC main office is deem important as part of its digitalization and e-government improvement plans.

II. CONTRACT PERIOD

The contract period shall cover sixty (60) working days from the date of Notice to Proceed (NTP).

III. APPROVED BUDGET FOR THE CONTRACT (ABC)

1. The Fund for this engagement shall be sourced from the General Appropriations Act (GAA) for the fiscal year 2020 of the ERC.

2. The ABC for the project is **Two Million Five Hundred Thousand Pesos (PhP2,500,000.00)** inclusive of all government taxes and other fees and charges.

IV. MODE OF PROCUREMENT

The Procurement of WiFi Network Infrastructure Upgrade (Project) shall be undertaken through Competitive Bidding pursuant to RA No. 9184 and its 2016 Revised IRR.

V. QUALIFICATIONS OF THE SERVICE PROVIDER

The Contractor should have the necessary eligibility, experience and expertise in providing the service, with the following credentials:

1. At least fifteen (15) years experience in providing Wireless Network Solutions. The contractor must submit proof/s to support their fifteen (15) years of experience in providing Wireless Network Solutions (e.g., notarized undertakings, list of contracts, etc); and
2. Must submit a Letter from the Principal Certifying Partnership, Experience and Capability; and

VI. MINIMUM TRACK RECORD

The ERC desires a service Contractor who has completed, within the last five (5) years from the date of submission and receipt of bids, a single largest contract that is similar to the Contract to be bid. A similar contract must be a contract the value of which must be at least fifty percent (50%) of the Approved Budget for the Contract (ABC).

VII. SCOPE OF WORK AND DELIVERABLES

The WiFi Network Infrastructure Upgrade (Project) covered the ERC main office only.

A. Activities:

Activities	Estimated Working Days
1. Delivery of the appliance to the ERC Main Office	45 Days
2. Evaluation and discussion of the network setup	2 Days
3. Installation, configuration and testing	10 Days
4. Transfer of knowledge to end-user	5 Days

B. Detailed Specifications:

Twenty-two (22) units Wireless Access Points w/ the following specifications:

1. Wi-Fi Standards: IEEE 802.11a/b/g/n/ac Wave 2
2. Supported Rates:
 - a. 802.11ac
 - b. 802.11n
 - c. 802.11a/g
 - d. 802.11b
3. Supported Channels:
 - a. 2.4GHz
 - b. 5GHz

4. Security:
 - a. WPA-PSK
 - b. WPA-TKIP
 - c. 802.11a/g
 - d. WPA2 AES
 - e. 802.11i
 - f. Dynamic PSK
 - g. WIPS/WIDS
5. Other Features:
 - a. WMM
 - b. Power Save
 - c. Tx Beamforming
 - d. LDPC
 - e. STBC
 - f. 802.11r/k/v
 - g. Hotspot
 - h. Hotspot 2.0
 - i. Captive Portal
 - j. WISPr
6. Controller Platform Support:
 - a. SmartZone
 - b. ZoneDirector
 - c. Unleashed
 - d. Cloud Wi-Fi
 - e. Standalone
7. IP:
 - a. IPv4
 - b. IPv6

8. VLAN:
 - a. 802.1Q (1 per BSSID or dynamic per use based on RADIUS)
 - b. VLAN Pooling
 - c. Port-based
9. Tunnel:
 - a. L2TP
 - b. GRE
 - c. Soft-GRE
10. Policy Management Tools:
 - a. Application Recognition and Control
 - b. Access Control Lists
 - c. Device Fingerprinting
 - d. Rate Limiting
11. With IoT capability
12. Antenna Type:
 - a. BeamFlex+ adaptive antennas with polarization diversity
 - b. Adaptive antenna that provides up to 64 unique antenna patterns per band
13. Antenna Gain (max): Up to 3dBi
14. Ethernet:
 - a. 2 x 1GbE ports
 - b. RJ-45
 - c. PoE in on one port
15. USB:
 - a. USB 2.0 port
 - b. Type A Connector

Please see **Annex "1"** for the list of deployment

C. Other Inclusions:

1. Twenty-two (22) units secure mounting bracket
2. Cabling of twenty-two (22) units to its assigned location indicated in Annex "1"
3. One (1) unit Wi-Fi Controller w/ the ff specifications:
 - a. Number of APs Supported: 150
 - b. Physical Size: 1RU
 - c. Ethernet Ports: 2x GbE
 - d. Authentication Support:
 - i. 802.1x
 - ii. Local Database
 - iii. Open
 - iv. Active Directory
 - v. RADIUS
 - vi. LDAP
 - e. Guest Networking / Captive Portal capability
 - f. Integrated DHCP Servers
 - g. AP Discovery and Control: L2/L3
 - h. Management Interface:
 - i. Web
 - ii. FlexMaster
 - iii. SCI
 - iv. Mobile App
 - i. Management Protocol: SNMP v3
 - j. VLAN Support: Dynamic VLANs
 - k. Deployment:
 - i. Tunneled
 - ii. Local Breakout

D. Other Requirements

Contractor must ensure that service providers are is physically and mentally fit to perform the work and compliant with ERC Health protocols.

VIII. WARRANTY AND MAINTENANCE

1. One (1) year warranty.
2. With parts and on-site service support for all equipment during the whole duration of the warranty.
3. After-sales support services.

IX. PAYMENT SCHEME

1. 20% of the payment shall be released upon delivery of the ICT equipment on the site. ICT equipment refers to one (1) unit WiFi Controller, twenty-two (22) units WiFi Access Point including its twenty-two (22) brackets and cabling.
2. The remaining 80% will be released upon 100% completion of the project but the ERC has the right to terminate / cancel the project at any time with or without notice to the contractor if it observes that the said contractor cannot deliver and fully utilize the capability and features of the subject infrastructure.
3. Upon cancellation, the 20% initial payment must be returned to ERC.

X. LIQUIDATED DAMAGES


1. Where the service provider refuses or fails to satisfactorily complete the work within the specified contract time, plus any extension time duly granted and is hereby in default under the contract, the service provider shall pay ERC for liquidated damages, and not by way of penalty, an amount, as provided in the conditions of the contract, equal to one tenth (1/10) of one percent (1%) of the cost of the unperformed portion for every day of delay. The maximum deduction shall be ten percent (10%) of the amount of the contract, of which ERC shall have the discretion to terminate the contract without prejudice to any other action or remedy it may take to recover the losses incurred as a result of the

service provider's failure/non-performance, including but not limited to forfeiture of performance security and/or blacklisting of the latter.

2. For entitlement to such liquidated damages, ERC need not prove the damages actually incurred. Said damages in any amount shall be deducted from any money due or which may become due the service provider under the Contract and/or collect such liquidated damages from the retention money or other securities posted by the service provider at the ERC's convenience.

XI. RESERVATION CLAUSE

The Energy Regulatory Commission (ERC) reserves the right to reject any end all bids, declare a failure of bidding or not award the contract at any time prior to contract award in accordance with Section 41 of R.A. 9184 and its IRR, without thereby incurring any liability to the affected bidder or bidders.

 Digitally
signed by
Teofilo G.
Arbalate, Jr.

Distribution of 22 Units Wireless Access Points

Floor	Service	# of Existing Units	# of Units to be Deployed	Total
22	MOS	0	2	2
20	ROS	0	2	2
18	GCSC, PPIS	2	2	4
17	ROS	2	2	4
16	OCCM	2	2	4
15	LS	2	2	4
14	FAS	2	2	4
12	MOS,CAS	2	2	4
10	MOS-RE, CAS	0	2	2
8	Multi-purpose Hall	0	2	2
2	COA	0	1	1
Mezannine	BAC	0	1	1
Total		12	22	34

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