

TERMS OF REFERENCE (TOR)

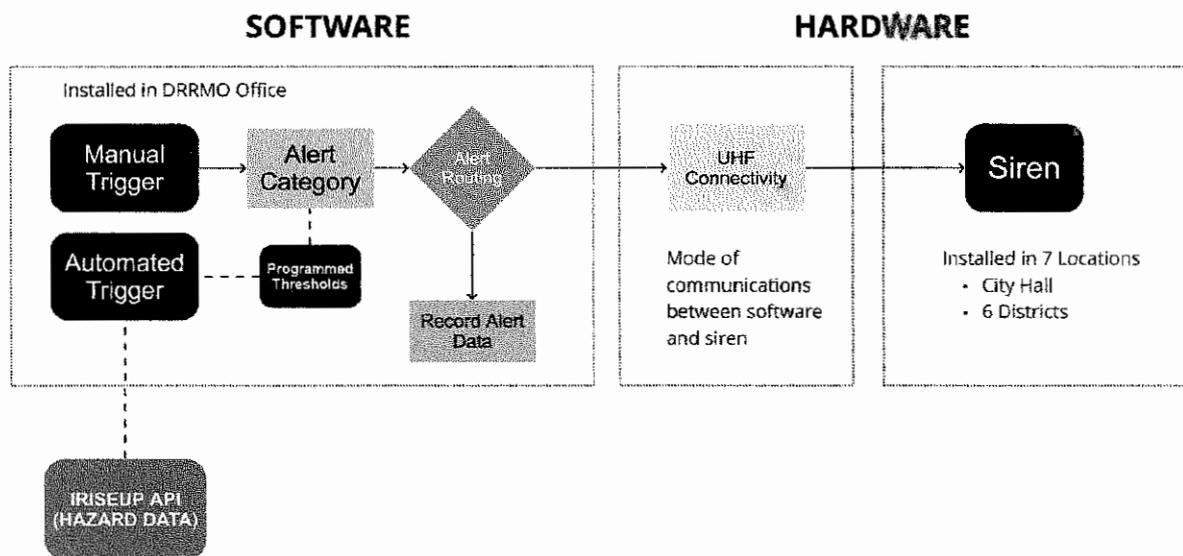
SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF EMERGENCY OUTDOOR ALERTING SYSTEM FOR DISASTER RISK REDUCTION AND MANAGEMENT

I. RATIONALE

The IRISE-UP is the city's Disaster Risk Reduction & Management Office integrated ICT solution that integrates monitoring systems of the City's early warning devices, remote sensors, data loggers, and field equipment dedicated for monitoring of water levels in the rivers and observation of weather parameters such as rainfall amount, temperature, pressure, humidity. The system includes the collection and processing of data from early warning devices, remote sensors, data loggers, and field equipment dedicated for monitoring of water levels in the rivers and observation of weather parameters such as rainfall amount, temperature, pressure, humidity through the use of state-of-the-art ICT systems.

II. PROJECT OBJECTIVES

The QC DRRMO is looking to expand its hazard alerting infrastructure by implementing a physical Outdoor Alerting System composed of Siren Equipment, Radio Connectivity and Software Components.



The Outdoor Alerting System will be used to physically alert communities using Siren equipment systems that are linked to a central alerting center. The alerts will be related to various hazard warnings coming from QC DRRMO.

The Outdoor Alerting System will have both manual and automated alerting options managed by software installed in a central alerting center.

The comprehensive hazard datasets of the IRISE-UP system shall be integrated with the Outdoor Alerting System to achieve an automated triggering of alerts.

QC DRRMO have identified the 7 locations that are composed of the EOC Command Center at City Hall and 6 Districts in Quezon City.

III. TECHNICAL SPECIFICATIONS

Requirements and specifications of the OUTDOOR ALERTING SYSTEM FOR DISASTER RISK REDUCTION AND MANAGEMENT

Description	Delivery Time
<p>1. SEVEN (7) WARNING STATION EQUIPMENT SET</p> <p>A. Electronic Digital Siren with PA (Public Address) Omni Directional (Per Station)</p> <p>SB-2-4-1 12dB @ 30m Omni Directional with 4 Horn Speaker, 12V/38Ah insight battery weatherproof cabinet with standalone power supply solar panel,solar charger fully functional Up to 1km range radius 2x Amplifier 400 Watt,Siren Pole cap, IP66 steel enclosure</p> <p>B. Primary Communication Interface per Siren</p> <ul style="list-style-type: none"> ● Seven (7) pcs CMC-4 Serial HMI Control Console for CS Siren ● Seven (7) pcs Compact Microphone ● Fourteen (14) pcs Battery 12V/38 Ah Lead acid maintenance free <p>C. Secondary Communication: UHF Radio</p> <ul style="list-style-type: none"> ● Seven (7) pcs Radio Transceiver UHF 403-470MHz for CS ● Seven (7) pcs FFSK Radio Modem ● F Seven (7) pcs Antenna Omni UHF 403-470 MHz ● Seven (7) pcs Antenna feeder LMR/CFD400,N male to BNC female 17m ● Seven (7) pcs pig tail 1m,LMR/CFD200,feeder to radio N male to BNC male <p>D. Junction Box Set (cables and mounting accessories)</p> <ul style="list-style-type: none"> ● Seven (7) pcs Pole mounting Junction Box for 4-6 horns 30x30x15cm,IP66 <p>E. Installation at seven (7) sites</p> <ul style="list-style-type: none"> ● Polemast Installation ● Digital Electronic Siren Installation <p>F. Three (3) Years Maintenance, support, warranty, and data plan for 7 Warning Station Equipment including replacement of Battery</p> <p>G. Includes 3 Days Training & User Manuals</p> <ul style="list-style-type: none"> ● 2 Days End-User Equipment Maintenance ● 1 Day End-User Training ● Digital User Manuals ● All training will have eight (8) hours per day with five (5) attendees. 	<p>60 Calendar Days</p>
<p>2. CONTROL STATION & COMMAND CENTER SOFTWARE</p> <p>A. Software Backend & Frontend</p>	

<ul style="list-style-type: none"> ● Windows Based Software <ul style="list-style-type: none"> ○ Capable on running on Windows 10 and 11 operating system ● MySQL Database <ul style="list-style-type: none"> ○ 1TB Storage ○ 32GB RAM ○ 16vCPUs ● Easy to use interface that will be installed a desktop PC mentioned in Item B ● Three (3) year license and technical support <p>B. Computer & Communications Equipment</p> <ul style="list-style-type: none"> ● One (1) pc Desktop PC <ul style="list-style-type: none"> ○ Operating System: Windows 11 Pro ○ Storage: 1TB HDD ○ Ram: 16GB ○ Power Supply: AC & Uninterrupted Power Supply <ul style="list-style-type: none"> ▪ Outlets: Five (5) ▪ Output Capacity: 1200VA/650W ▪ Output (on battery): 220V-240V, 50/60Hz +/- 1Hz ▪ Input Power: 220V-240V, 50/60Hz +/- 5Hz (auto sensing) ▪ Surge: 273 J ▪ Battery recharge time: 8 hours ▪ No. of Outlets: 5 - 4 universal, 1 IEC 60320 C13 ▪ Dimension: 39 x 19 x 14 cm ▪ Battery Type: Lead-Acid ○ Processor: Intel i5 10th Generation or better ○ Monitor: <ul style="list-style-type: none"> ▪ Size: 23.8 inches ▪ Panel Type: IPS ▪ Resolution: 1920x1080 ▪ Aspect Ratio: 16:9 ○ Peripherals (Same Brand): <ul style="list-style-type: none"> ▪ Mouse: <ul style="list-style-type: none"> ● Connectivity: USB ● Compatibility: Windows ● Installation: Plug-and-Play ▪ Keyboard <ul style="list-style-type: none"> ● Connectivity: USB ● Compatibility: Windows ● Installation: Plug-and-Play ● One (1) pc TC/IP VoIP and Data Card ● One (1) pc Ethernet Media Converter; 12VDC ● One (1) pc UE-60-50 Universal Enclosure 60x50x20cm, IP66 Basic AC ● One (1) pc 2V/8A DC Power supply with battery monitor UPS ● One (1) pc Battery 12v/27Ah lead acid maintenance free ● One (1) pc cabling and assembly ● One (1) pc SFP module 100M/Singlemode/2-fiber/1310/LC connector to be connected to Desktop PC mentioned in Item B. ● One (1) pc Radio Tranceiver UHF 403-470 MHz for CS 	<p>60 Calendar Days</p>
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- One (1) pc FFSK Radio Modem
- One (1) pc Antenna feeder LMR/CFD500, N male to N female 30m
- One (1) pc Pig-tail 1m, LMR/CFD200, feeder to radio N male to BNC male
- One (1) pc CMC-8 HMI Warning System Control Console for CS Siren
- One (1) pc TW-100 Communication Audio Panel
- One (1) pc RS485 adapter to USB

C. Control Station Software

- Ability to control up to individual siren and siren groups
- Scheduled or user requested diagnostic Tests
- Can activate Warning or Emergency Signals and prerecord Voice Messages
- Provides alert notifications for Siren's Errors in Horns, Amplifiers, Batteries and Communication.
- Can perform live voice announcements for Public Addressing
- 3 User Access Levels and i-Button support
- Scheduled or user requested Activation

D. Automated Trigger Middleware

- Integration connectors to CS siren for manual and automated trigger
- Integration connectors to existing iRISE-UP hazard API's for automated trigger (up to 50 data parameters)
- API call management to call iRISE-UP data flexible per 5min, 15min, 30min, 45min, 1hr to 12 hrs updating time for hazards that require API calling
- Development of automated and programmed triggers and messaging depending on alert category and have the flexibility for adjustment
- Siren location and status shall be integrated and pushed to be displayed in the iRISE-UP GIS interface of both web application and native mobile application (IOS/Android), QC DRRMO will provide access to the development environment

E. Historical Data Storage

- Store and Manage alert data thru a simple historical data management interface

F. Three (3) years One (1) standard Internet Broadband line for 24x7 use

- One-time installation
- Bandwidth: Unlimited (No Data Cap)
- Speed: Up to 50Mbps

G. Three (3) Years software license, maintenance, support warranty, and technical support

- All equipment
- Software

H. Includes 3 Days Training & User Manuals

- 1 Day Train the Trainer
- 1 Day System Admin Training
- 1 Day End-User Training
- Digital User Manuals

<ul style="list-style-type: none"> All training will have eight (8) hours per day with five (5) attendees. 	
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IV. APPROVED BUDGET FOR THE CONTRACT

The approved budget for the contract amounts to **thirty million pesos (P30,000,000)**.

ITEM	BUDGET (PHP)
1. SEVEN (7) WARNING STATION EQUIPMENT SET	15,000,000
• Electronic Digital Siren with PA Omni Directional	7,000,000
• Primary Communication Interface	2,100,000
• Secondary Communication	2,100,000
• Junction Box Set	350,000
• Installation	700,000
• Warranty, Support, Maintenance, and Data Plan	2,650,000
• Training and User Manuals	100,000
2. CONTROL STATION & COMMAND CENTER SOFTWARE	15,000,000
• Software Backend & Frontend	3,000,000
• Computer & Communications Equipment	750,000
• Control Station Software	4,000,000
• Automated Trigger Middleware	4,000,000
• Historical Data Storage	100,000
• Internet Broadband line	50,000
• Three years software license, maintenance, support warranty, and technical support	3,000,000
• Training and User Manuals	100,000
TOTAL	30,000,000

V. PROJECT DURATION

The delivery period of the Project shall be within sixty (60) calendar days after the issuance of the Notice to Proceed.

VI. TERMS OF PAYMENT

Below are the deliverables that will be used as the basis for full payment.

Item	Deliverables	Payment Percentage
Delivery and installation of seven (7) warning station equipment set	Project Acceptance Document: Receipt, Installation Completion and Maintenance & Warranty Certificate	15%
Delivery of control station & command center software	Project Acceptance Document: Fully delivered system and documentation	60%
Training & documentation	Training certificate and documentation	25%

VII. REQUIRED QUALIFICATIONS OF BIDDERS

The bidder must have demonstrated capability, experience and have implemented and managed citywide sensor equipment networks and

meteorological information alerting to highly urbanized city (HUC) in the Philippines. These systems must be already existing and proven working by other highly urbanized cities (HUC) in the Philippines.

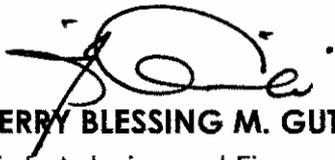
VIII. PENALTIES FOR BREACH OF CONTRACT

Incomplete and delayed delivery will result in penalties based on standard Government implementing rules and regulations.

IX. CANCELLATION FOR OR TERMINATION OF CONTRACT

Incomplete and delayed delivery and non-performance of services will result in penalties and termination of contract based on standard Government implementing rules and regulations.

Prepared and recommended by:



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Noted by:



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Secretary to the Mayor