QCDRRMO-25-EHSE-0124
Line 1

SUPPLY, DELIVERY, INSTALLATION, TESTING, AND COMMISSIONING OF AUTOMATED WEATHER STATIONS AND SPATIAL RISK ANALYSIS SYSTEM

I. RATIONALE AND BRIEF BACKGROUND

The Republic Act No. 10121 known as the Philippine Disaster Risk Reduction and Management Act of 2010 defines Early Warning System as the set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss.

Quezon City, among any other location in the Philippines, is exposed to the ever evolving disasters which is exacerbated by climate change. In order to ensure the safety of its citizens, it needs to utilize both existing and new technologies in monitoring and forecasting the weather.

CDRRMO aims to install automated weather sensors to further improve its capabilities in monitoring and forecasting the weather, especially for extreme heat and severe winds. The aforementioned sensors will be seamlessly integrated to the existing sensor network and create a localized spatial risk analysis system focused on extreme heat and severe winds to provide a better understanding on what actions are needed to be done to further improve the current programs and systems to mitigate the impact of the hazards.

II. PROJECT DESCRIPTION

The concept of the project is to enhance the capabilities of CDRRMO by installation of automated weather stations and creating the city's very own spatial risk analysis system focused on extreme heat and severe wind. The additional sensors and system will provide a more in-depth understanding on heat index and wind patterns within the city as it is vital information on the cancellation of classes and work throughout the year (dry and wet season).

Since these are critical systems for disaster preparedness, the CDRRMO recommends a system that is already existing and proven working by other Local Government Units in Metro Manila. The CDRRMO is aiming to have a system aligned with SMART CITY models or solutions that are automated, faster to implement, easy to manage, and more cost effective. In addition, the datasets of the sensors should be seamlessly integrated to the existing iRise UP data display and data management system (cloud-based and QCITDD).

III. PROJECT SCOPE OF WORK

The CDRRMO plans to install ten (10) automated weather stations within the City identified by CDRRMO. The datasets will then be integrated into the existing data display and data management system (cloud-based and QCITDD) of CDRRMO along with the previously procured sensors. National and local protocols should be followed in the analysis of the sensors' datasets.

System Output

- Ten (10) Operational Automated Weather Stations
- Spatial Risk Analysis System
    - Data Display
    - Report
    - Alerts
    - Integration
    - Data Backup/Redundancy
    - Historical data

Technical Specifications

Lot	Description	Delivery Time

1 Lot	**TEN (10) AUTOMATED WEATHER STATIONS**
	• Power supply through solar
	• Plug and play
	• No programming and complex wiring
	• Real-time access to data from any web browser
	• LCD display for easy field deployment
	• Cloud-based data access
	• Smart Sensor Connectors: 10 inputs.
	• Logging Rate: Configurable for as low as one (1) second.
	• Parameters
	  o Temperature
	  o Humidity
	  o Wind Speed
	  o Wind Direction
	  o Rain
	  o Solar Radiation
	• Derived Parameters
	  o Heat Index
	  o Dew Point Temperature
	• Interface: RS485
		Forty five (45) Calendar Days

	SENSOR SERVICE REPLACEMENT, MAINTENANCE, WARRANTY AND DATA SUBSCRIPTION	

	Quarterly checking of station such as: • Automated Weather Station • Data logger • Battery • Solar Charge Controller • Solar Panel • Three (3) years coverage **Replacement of devices and accessories such as:** • Automated Weather Station • Data logger • Battery • Solar Panel • Solar Charge • Controller • Three (3) years coverage **Emergency Repair and Maintenance** • 24/7 Availability of Personnel • Three (3) years coverage **Data Connectivity Subscription** • Three (3) years coverage	
	SPATIAL RISK ANALYSIS SYSTEM **Data Display** • GIS, Table, Graph and Threat Matrix display of realtime and historical of automated weather station data • GIS analysis overlaying automated weather station data • Menu & Settings to display clustered view and per sensor view • Spatial analysis of existing and new sensors (temperature, humidity, heat index, and wind speed) that covers the whole city with color-coding based on identified threshold. **Report** • Report Facility to assign automated email reports per location and its recipients • Email (HTML) Format **Alerts** • Alert Facility to provide weather monitoring and early warning alerts • Integrated to existing Telegram alerts for group alerts **Integration** • Integration to existing web application and data dump system (cloud-based and QCITDD)	

	• Integration to iRISE UP application **Data Backup/Redundancy** • Data dumps are to be performed every 15 minutes or shorter (all details pertaining to access to the QCDRRMO database such as address or URL to a management console, userid and password are to be given to QCDRRMO). • Perform redundant data writes to an ITDD database • Historical data must be stored in the existing QCDRRMO database with redundancy on the ITDD database. **Software License** • Perpetual Software License with three (3) years technical support and maintenance	
	SENSOR INSTALLATION • Ten (10) Locations • Site Survey • Installation and Calibration • Engineering works	
	TRAINING • Two (2) days end user orientation for processing of datasets, analysis of datasets, and generation of spatial risk analysis. • All training will have eight (8) hours per day with five (5) attendees.	

IV. AREA OF COVERAGE

The sensor installation will cover ten (10) locations within Quezon City and will be identified by the Emergency Operations Center (EOC) during the start of implementation.

V. PROJECT STANDARDS AND REQUIREMENTS

Bidders should have completed, a single contract that is similar to this Project or related to Supply, Installation and Maintenance of meteorological devices and data processing systems, equivalent to at least fifty percent (50%) of the ABC three (3) years from the date of submission and receipt of bids, a contract similar to the project.

Bidders should have at least two (2) field staff for the installation and three (3) years on-going support and maintenance of ten (10) sensors. Bidders should have demonstrated experience and capacity to manage community based early warning systems in a highly urbanized city (HUC) in Metro Manila.

Bidders should have at least one (1) Meteorologist and one (1) IT-Data Science resources for Training and continuous consultation within the project as this is a science-based data driven project.

VI. PROJECT DURATION

The delivery period of the Project shall be within **forty five (45) calendar days** after the issuance of the Notice to Proceed.

VII. APPROVED BUDGET FOR THE CONTRACT

The approved budget for the contract amounts to **twenty one million one hundred thousand pesos (P21,100,000).**

ITEM	BUDGET (PHP)
1. **TEN (10) AUTOMATED WEATHER STATIONS**	10,000,000
2. **SENSOR SERVICE REPLACEMENT, MAINTENANCE, WARRANTY AND DATA SUBSCRIPTION**	3,000,000
3. **SPATIAL RISK ANALYSIS SYSTEM**	6,000,000
4. **SENSOR INSTALLATION**	2,000,000
5. **TRAINING**	100,000
TOTAL	**21,100,000**

VIII. BASIS OF PAYMENT

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

Item	Deliverables	Payment Percentage
Delivery & Installation of Ten (10) Automated Weather Station Set Solar Panel and Data Connectivity	Project Acceptance Document: Receipt, Inventory, Installation Completion and Maintenance & Warranty Certificate	15%
Delivery of Spatial Risk Analysis System	Project Acceptance Document: Fully delivered system and documentation	75%
Training	Training Certificate	10%

IX. PENALTIES FOR BREACH OF CONTRACT

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

Due to the nature of the system, technical support on the cloud-based application must be readily available for emergency repair and maintenance works and failure to carry out the documented and written request of the end-user shall result in penalties based on the standard government implementing rules and regulations or may serve as grounds for incomplete delivery of services.

X. 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.

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