

TERMS OF REFERENCE

SUPPLY, DELIVERY AND INSTALLATION OF EARTHQUAKE RECORDING INSTRUMENT (ERI) FOR THE MARINA CENTRAL OFFICE BUILDING

A. Background

The Maritime Industry Authority (MARINA) is a government agency established pursuant to Presidential Decree No. 474 and attached to the Department of Transportation (DOTr). In compliance with the Republic Act No. 9184 known as the "Government Procurement Reform Act", the MARINA will be conducting a public bidding for the supply, delivery and installation of ERI for the MARINA Central Office Building.

B. Objective

1. To procure a sensing equipment that measures seismic acceleration or strong ground motion that processes and converts the intensity, velocity and displacement of ground motion.
2. To comply with the guidelines and implementing rules on Earthquake Recording Instruments for buildings, as mandated by DPWH-National Building Code Development Office and pursuant to DPWH-NBCDO Memorandum Circular No. 01 Series of 2015 requiring all building owners in every city or municipality to install subject instrument in their building/s.

C. Approved Budget for the Contract

The Approved Budget of the Contract (ABC) is One Million Three Hundred Thousand Pesos (P1,300,000.00), inclusive of VAT and other applicable government taxes to be charged against the 2020 Continuing Appropriations of MARINA for Capital Outlay.

D. MARINA Requirements

In addition to the provisions of RA 9184 and its IRR, the following are the MARINA requirements:

1. The bidders must be accredited supplier of Earthquake Recording Instrument (ERI) by the DPWH;
2. The bidders must be continuously operating in the Philippines for the past five (5) years; and
3. The bidders must have no pending case(s) against the government.

E. Deliverables

1. 1 unit – ERI

Specifications:

Digitiser & Recording

Digitiser Type	32-bit ADC, differential or single-ended
Data Channels	3(minimum)
Full-scale range	40Vpp (suited to $\pm 10V$ differential output sensors)

Noise and Dynamic Range

Noise level	(shorted input) Less than 1 LSB RMS noise in a 24-bit system @40sps
Sensitivity	419430.4 counts per Volt
Dynamic range	138dB @ 100sps (144dB @40sps, 127dB @4000sps)

Timing

Reference	Data is time stamped every second from GPS receiver
Accuracy	RMS(Root-Mean-Square) 30 nanoseconds

Controls

User Interface	In-built LCD with 4-line text display and 4-button input
File recording	Continuous (always on), Histogram (always on)
Trigger & Alarm	STA/LTA triggering, Level (High & Low) triggering (3D or 1D); System Alarms
Calibration signal generator	Variable amplitude/frequency step/sine signal generation
Mass Control	Calibrate enable, Mass Lock, Unlock & Centre commands

Data Storage

Flash memory type	SD card/SLC NAND
Included storage	32GB
File system	FAT32, readable by Windows, Mac & Linux OS
Data format	24-bit MiniSEED (with data-less station information files; station.xml export)

Power

DC input voltage range	11.5 to 24V
Internal Battery	(up to 8Hrs Backup Power)

2. Software for Data Analysis
3. Enclosure
4. Set of Desktop for monitoring
5. Charger, Alarm & Ethernet Wall Box
6. GPS Cable and GPS Aerial
7. Integration with annunciation and alarm system

8. Equipment should be installed at the most suitable area in the building in accordance with the guidelines of DPWH.

F. Delivery Schedule

1. The equipment must be delivered and installed within thirty (30) days upon receipt of the Notice to Proceed (NTP);
2. Deliveries should be made within office hours and on regular working days on or before the stipulated date in the contract; and
3. MARINA shall impose penalty of 1/10 of 1% if the total value of the undelivered order for each day of delay as liquidated damages after the specified allowable number of days to deliver the units.

G. Other Requirements

1. The winning bidder warrants that it shall strictly conform to all the Terms and Conditions of this Terms of Reference.
2. One (1) year warranty on all components.
3. During the warranty period, the winning bidder shall provide technical personnel free of charge to service the system and all its components/peripherals whenever hardware and/or related problem should occur. Should there be a need to pull-out a unit for repair: a replacement unit with at least the same specifications must be provided by the supplier before actual pull-out of the malfunctioned unit.
4. The winning bidder must provide a training program and technology transfer to the MARINA designated technical staff.

H. Inspection and Acceptance

1. After Sales Service and Support during the warranty period, all reported defects shall be completely/satisfactorily repaired / replaced by the winning bidder/supplier.
2. The MARINA shall have the right to reject and return the unit(s) and cancel the corresponding Contract if units delivered are defective, incomplete or noncompliant to the specifications herein specified.

I. Terms of Payment

The payment shall be done within thirty (30) working days upon submission of complete documents including, delivery, testing and upon issuance of Inspection and Acceptance Report by the authorized/designated representatives of MARINA.