ASTI-FM 03-10
REV 4/ 9 MAR 2022

DOST-ASTI Bids and Awards Committee
REQUEST FOR QUOTATION

Kind of Procurement Activity:	Negotiated Procurement:Small-value Procurement		
Deadline of Submission of Bids:	Apr-01-2024, 2:00 PM		
RFQ No.:	24-03-4730	**Date:**	March-27-2024
PR No.:	GAA-24-03-18907	**Date:**	March-20-2024

The Department of Science and Technology (DOST) - Advanced Science and Technology Institute (ASTI), through its Bids and Awards Committee (BAC), intends to procure the enlisted item/s below. Bidders may submit a proposal on any of the lots or items, and evaluation will be undertaken on a per lot or item basis, except otherwise specified in the requirements. Award may be considered for prospective bidder/s proven to be the single/lowest calculated and responsive quotation among all other quotations. Guidelines on the format of quotations and eligibility documents are listed below. Kindly follow the prescribed GUIDELINES to avoid DISQUALIFICATION.

Quotations may be submitted 1) manually to the BAC Secretariat at G/F DOST-ASTI Bldg., UP Technology Park Complex, CP Garcia Ave., UP Campus, Diliman, Quezon City or 2) sent via electronic mail at bac-sec@asti.dost.gov.ph. For further information, please contact the BAC Secretariat at +63 2 8249-8500 loc. 1206/1212.

Thank you.

Bayani Benjamin R. Lara
Digitally signed by Bayani Benjamin R. Lara

BAYANI BENJAMIN R. LARA
BAC Chairperson

NO.	TECHNICAL SPECIFICATIONS	QTY	UNIT	UNIT PRICE(Php)	TOTAL PRICE(Php)
1	**Sensor - Multiparameter Water Quality Sonde** 1. GENERAL OVERVIEW 1.1. DOST-ASTI is seeking qualified and competent bidders for the SUPPLY AND DELIVERY OF ONE (1) UNIT OF MULTIPARAMETER WATER QUALITY SONDE to be used to measure various water quality parameters of the Metbuoy station designed for unattended and long-term deployment. 1.2. The Approved Budget for the Contract (ABC) includes all applicable government taxes and services charges. 2. TECHNICAL SPECIFICATIONS 2.1. Sensors: 2.1.1. Optical Dissolved Oxygen (DO): 2.1.1.1. Must have a US Environmental Protection Agency (EPA) approval and shall comply with the manufacturer's EPA-approved methods or equivalent: 1002-8-2009, 1003-8-2009 and 1004-8-2009 2.1.1.2. Must utilize frequency domain / lifetime-based measurement methodology 2.1.1.3. Must not require sample flow (movement) or stirring/pulsing requirement for accurate measurements 2.1.1.4. Must not consume oxygen, thus assuring	1	unit	950000.00	950,000.00

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accurate sample measurement in any/all water flow conditions and without the use of a “pulsing” technology or stirring/circulator device

2.1.1.5. Must not utilize membranes and should not require routine calibration maintenance for up to six months or more under typical use conditions

2.1.1.6. Must not require an initial hydration period prior to calibration or instrument deployment

2.1.1.7. Must not require storage in water or in a sealed container with water saturated air in order to retain calibration accuracy

2.1.1.8. Maintenance kit must be available

2.1.1.9. Must have a protective sensor cap with expected lifespan of approximately 24 months

2.1.1.10. Sensor cap replacement kit must be available

Optical Dissolved Oxygen on the probes must meet accuracy requirements of;

2.1.1.10.1. ± 0.1 mg/L from 0 to 20 mg/L

2.1.1.10.2. ± 2% of reading from 20 to 60 mg/L

2.1.1.11. Automatic compensation of DO readings for salinity must be available from water quality instrument’s conductivity sensor

2.1.1.12. Automatic compensation for temperature must be available from probe’s temperature sensor

2.1.1.13. Automatic barometric pressure compensation of DO and level readings must be available through the barometric pressure sensor in the water quality instrument

2.1.2. Conductivity:

2.1.2.1. Must comply with Standard Methods 2510 and EPA 120.1 or equivalent

2.1.2.2. Conductivity sensor on the probe must meet accuracy requirements of:

2.1.2.2.1. ± 0.5% of reading plus 1 µS/cm from 100,000 µS/cm

2.1.2.2.2. ± 1.0% of reading from 100,000 to 200,000 µS/cm

±2.0% of reading from 200,000 to 350,000 µS/cm

2.1.2.3. Must be of a four, titanium electrode design (two drive and two sensing electrodes)

2.1.2.4. Must report measurements as:

2.1.2.4.1. Actual conductivity

2.1.2.4.2. Specific conductivity

2.1.2.4.3. Salinity

2.1.2.4.4. Total dissolved solids (TDS)

2.1.2.4.5. Resistivity

2.1.2.4.6. Density

2.1.2.5. Must include a thermistor for temperature measurement

2.1.2.6. Sensor depth rating shall meet the highest rating

2.1.2.7. Response rate: <5 seconds

2.1.3. pH/Oxidation Reduction Potential (ORP):

2.1.3.1. pH must comply with Standard Methods 4500-H+ and EPA 150.2 while ORP must comply with Standard Methods 2580 or equivalent

2.1.3.2. ORP on the probe must meet accuracy requirements of ± 5.0 mV

2.1.3.3. pH on the probe must meet accuracy requirements of ± 0.1 pH unit

2.1.3.4. pH/ORP electrode sensor should be refillable and has a replaceable junction to allow for longer sensor life
2.1.3.5. Minimum range:
2.1.3.5.1. pH: 0 to 14 pH units
2.1.3.5.2. ORP: ± 1400 mV
2.1.3.6. Depth rating shall meet the highest rating
2.1.3.7. Response rate: <30 seconds
2.1.3.8. Must occupy one smart port of the unit
2.1.4. Temperature sensor:
2.1.4.1. Must comply with EPA method 170.1
2.1.4.2. Material: Titanium
2.1.4.3. Range: -5 degrees Celsius to 50 degrees Celsius
2.1.4.4. Accuracy: ± 0.1 degrees Celsius
2.1.4.5. Depth rating shall meet the highest rating
2.1.4.6. Response rate: < 30 seconds
2.1.5. Ammonia:
2.1.5.1. Range: 0 to 10,000 mg/L as N
2.1.5.2. Response rate: <30 seconds
2.1.5.3. Resolution: 0.01 mg/L
2.2. Power requirement:
2.2.1. Voltage input: 8-36VDC
2.2.2. Current consumption: 16mA typical, 45mA max or less
2.2.3. Can utilize an external power source from:
2.2.3.1. SDI-12 & Modbus RS485
2.2.3.2. AC (through adapter, 8-36 V maximum)
2.2.3.3. DC
2.2.3.4. Solar
2.3. Size:
2.3.1. Outside diameter: approximately 1.860 inches (4.7 cm)
2.3.2. Length: approximately 18.145 inches (46 cm)
2.4. Material:
2.4.1. PC
2.4.2. PC alloy
2.4.3. Delrin
2.4.4. Santoprene
2.4.5. Inconel
2.4.6. Viton
2.4.7. Titanium
2.4.8. Ceramic
2.4.9. Nylon
2.5. Ingress Protection (IP):
2.5.1. IP68 with all sensors and cable attached
2.5.2. IP67 without the sensors and cable attached
2.6. Water quality sonde requirements:
2.6.1. The barometric pressure sensor must be fixed and included as standard sensor in its instrument body. The sensor:
2.6.1.1. Shall use silicon gauge methodology
2.6.1.2. Range: 300 – 1100 mBars
2.6.1.3. Accuracy: ± 1.0 mBar
2.6.1.4. Depth rating shall meet the highest rating
2.6.1.5. Response rate: <30 seconds per 30 m (100 ft) of cable
2.6.2. Must be calibrated at manufacturer's site with a full calibration report provided for each sensor including their serial numbers. The calibration report must be generated by software and stored each

	calibration and available for future recall within the software 2.6.3. Must allow the ability to recover the probe settings when removed from the power source 2.6.4. Must have the ability to receive 8-36 VDC which is not required for normal operation 2.6.5. Must have an easy-to-connect IP-68 cable connector 2.6.6. Shall be able to download logged data directly to an IOS and Android device or a computer running Windows OS 2.6.7. Must be able to compensate for water salinity with a user-input value or via a measurement derived from a conductivity sensor at customer's option, and must provide continuous live salinity compensation of dissolved oxygen Must include sensor ports that accommodate optional sensors to allow for greatest instrument flexibility. Sensors and ports must: 2.6.7.1. Permit interchangeability and/or replacement by the users in the field (i.e., changing out conductivity sensor with a turbidity sensor, pH/ORP replaced with an optical dissolved oxygen sensor, etc.) 2.6.7.2. Be recognized by sensor type and smart port position by software and LCD display upon connection via mobile device, laptop, or desktop 2.6.7.3. Shall retain recent calibration information and factory default calibration data on an integral circuit within the sensor and must be serialized and show such serial numbers on auto-generated calibration documentation 2.6.7.4. Must be capable of being identified by the instrument/software, and by serial number 2.6.8. Must include sensor screw tool for easy replacement or change of sensors under normal operating conditions and to prevent premature damage of any of the sensors under normal operating conditions 2.6.9. Must utilize captive screws on sensors 2.6.10. Shall give the users an option to add additional sensors with and/or after the placement of the original order 2.6.11. Must permit users to calibrate sensors in one water quality instrument and then be utilized in another water quality instrument while retaining reasonable calibration accuracy 2.6.12. Must include an LCD on the instrument body that provides system indicators for sensor installation/status, power status, data log status and connectivity. 2.6.13. Must communicate wirelessly to an Android/IOS device through Bluetooth Wireless Technology via inbuilt internal Bluetooth feature and external Bluetooth feature 2.6.14. Must be able to log data directly to an Android/IOS smartphone device 2.6.15. Must be able to support active and passive antifouling measures, including an antifouling brush that cleans all sensors at the same time and specially formulated copper sensor guards 2.6.16. Must have a "Quick Calibration" solution					

	(single solution) available for 1-point simultaneous calibration process of pH, conductivity, and ORP 2.6.17. Sensor plugs must be wet-mateable to prevent water intrusion to the electronic connection within the plug 2.6.18. Smart ports that do not contain sensors must utilize sensor port plugs in their place 2.6.19. As a user option, capable of being suspended without cable rather using a non-vented backshell hanger and steel cable 2.6.20. Calibration solutions must be available for the sensors 2.7. Cable system 2.7.1. Shall be available in thermoplastic polyurethane (TPU) or Tefzel (ETFE fluoropolymer, generic equivalent to Teflon) 2.7.2. Shall provide users the ability to change cable types 2.7.3. Shall provide users to add cable length using an extender 2.7.4. Shall permit users to ability to access data from the sonde 2.7.5. Must have a fully adjustable pulling grip to suspend the sonde and cable 2.8. Software system: 2.8.1. Capable of displaying dissolved oxygen, conductivity, pH, ORP, water level, water temperature, and barometric pressure simultaneously 2.8.2. Offer capability for manual entry or auto-tagging of GPS coordinates 2.8.3. Allow the user to name site data, attach site photos, and a description 2.8.4. Can be integrated into mobile help functionality into the app 2.8.5. Allow the user to email the data in .csv format directly from the display if cellular or wireless communication are available 2.8.6. Allow the user to consolidate all well, pumping and site information for reuse at subsequent events; track low-flow sampling test and set up and calibrations; automate data collection; allow of export of a data log to a standard file format; and monitor and record the stabilization of the water quality parameters 2.8.7. Offer a zero-calibration method for DO 2.8.8. Allow adjustments for specific gravity variations in saline, brackish and fresh water 2.8.9. Offer ability to transfer data to spreadsheets at the click of a button 2.8.10. Offer the ability to email data directly from the smartphones at the click of a button 2.8.11. Offer convention to factory reset to individual sensors and sonde, or all the sensor at once 2.8.12. Allow automatic zero referencing at the start of test – or program any reference for immediate or start-to-test referencing; reference can even be changed or removed after a test has been completed 2.8.13. US standard and metric measurement units must be available. Units shall be changeable before, during and after a test. Water level readings must be easily converted to pressure readings and vice-versa 2.8.14. Level/depth reference points and channel					

definitions must be modifiable even after the data has been collected, eliminating any chance for a setup error.

2.9. Must complied to the international requirements and compliance standards under the EMC Directive 2004/108EC or equivalent:

2.9.1. IEC 61000-6-1:2005 – Electromagnetic Compatibility (EMC) – Part 6-1: Generic Standards – Immunity for Residential, Commercial and Light-Industrial

2.9.2. IEC 61000-6-3:2006 – Electromagnetic Compatibility (EMC) – Part 6-3: Generic Standards – Emission Standard for Residential, Commercial and Light-Industrial Environments

2.9.3. IEC 61000-4-2:2008 – Electrostatic Discharge Immunity Test

2.9.4. IEC 61000-4-3: 2006, A1:2007, A2:2010 – Radiated, Radio-Frequency, Electromagnetic Field Immunity Test

2.9.5. IEC 61000-4-4: 2004, A1:2010 – EFT/Burst Immunity Test

2.9.6. IEC 61000-4-6: 2008 – Immunity to conducted disturbances, induced by radio-frequency fields

2.9.7. IEC 61000-4-8: 2009 – Power Frequency Magnetic Field Immunity Test

2.9.8. CISPR 22:2008 – Radiated Electromagnetic Emissions

2.9.9. RoHS

2.10. Certification:

2.10.1. The sonde shall comply with all applicable directives required by:

2.10.1.1. CE

2.10.1.2. WEEE

2.10.1.3. RoHS

2.10.1.4. FCC

2.10.1.5. EN 61326

2.10.1.6. ICES-003

3. PACKAGE INCLUSION

3.1. Water Quality Sonde

3.2. Sensors/Ports

3.2.1. Temperature/Conductivity

3.2.2. Ammonium

3.2.3. Dissolved oxygen (DO, includes cap)

3.2.4. pH/ORP

3.2.5. Wiper

3.3. Cable

3.3.1. Rugged cable with twist lock termination on both ends

3.3.1.1. Termination: Twist-lock made of titanium (female connector) on both ends

3.3.1.2. Conductors: 6-wire, 24AWG

3.3.1.3. Non-vented

3.3.1.4. TPU

3.3.1.5. Length: 3 meters

3.3.2. Twist-lock bulkhead connector

3.3.2.1. Twist-lock connector adapter for panel mounts

3.3.2.2. Conductors: 6-wire plus ground

3.3.3. Rugged cable stripped and tinned

3.3.3.1. Termination: Twist-lock made of titanium

	(female connector) on one end, pigtails on the other 3.3.3.2. Conductors: 6-wire, 24AWG 3.3.3.3. Non-vented 3.3.3.4. TPU 3.3.3.5. Length: 3 meters 3.4. Maintenance kit for Wiper 3.4.1. Includes O-rings/grease, tools, wiper brush and screws, desiccant and lens cloth 3.5. Calibration standard solutions 3.5.1. Conductivity calibration solution, 1413 µS/cm, liter 3.5.2. Dissolved oxygen calibration kit 3.5.2.1. 1 liter DI water 3.5.2.2. ½ liter NA2SO3 3.5.3. Ammonium calibration standard 3.5.3.1. 14 ppm as N, liter 3.5.3.2. 140 ppm as N, liter 3.5.4. pH calibration kit 3.5.4.1. 1 liter of pH 4 3.5.4.2. 1 liter of pH 7 3.5.4.3. 1 liter of pH 10 3.5.4.4. 1 liter of DI water 4. NOTES 4.1. The supplier is required to submit a breakdown of the quotation, which may be used as reference for future purchase of replacement of components/consumable parts. 5. WARRANTY AND AFTER-SALES SUPPORT 5.1. Must have at least twelve (12) months of warranty from the time of delivery which covers defects in the components and sensors. 5.2. Warranty service shall commence from the date of end-user acceptance. 5.3. Technical support service must be available Monday to Friday (including holidays), during business hours, 9AM –6PM Philippines Standard Time (UTC+8). 5.4. Any repair or replacement service must be successfully done within thirty (30) calendar days. 5.5. The end-user must be able to request technical support by phone, email or through a website. 6. DELIVERY AND PAYMENT TERMS 6.1. The goods must be delivered within thirty (30) calendar days upon issuance of Notice to Proceed (NTP). 6.2. Full payment will only be given once the item is completely delivered, inspected, and accepted by the End-user. 6.3. No payment shall be made for the supplies and materials not yet delivered under this contract.				
TOTAL APPROVED BUDGET FOR THE CONTRACT (ABC):					**Php 950,000.00**

GUIDELINES

A. Content and Format of Quotations

1. *The Quotation/s must include the RFQ Number or the PR Number indicated above*
2. *Bidders must specify the BRAND NAMES and MODEL NAMES/NUMBER for the following goods:*
   a. *Computer and electronic equipment and its accessories or peripherals*
   b. *Software applications, programs, and digital licenses*
   c. *Commercial off-the-shelf electronic devices or components*
3. *The Quotation/s must indicate the registered business name of the company (or individual), business address and contact number. It must also include the full name and signature of the company's authorized representative.*
4. *BIR Certificate of Registration for new DOST-ASTI suppliers.*

B. Eligibiliy Requirements

Pursuant to Annex "H" or Consolidated Guidelines for the Alternative Methods of Procurement of the 2016 Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184, the following documents shall be submitted except for Repeat Order, Shopping under Section 52.1(a), and Negotiated Procurement under Sections 53.1 (Two-Failed Biddings), and 53.5 (Agency-to-Agency):

For Procurement of Goods

1. *Upon submission of quotation*
   a. *Valid PhilGEPS Registration Number / Organization ID*
   b. *Valid Mayor's/Business Permit*

2. *Upon issuance of Notice of Award (NOA)*
   a. *Omnibus Sworn Statement (shall be required only for procurement projects with ABC above P50,000.00)*
   b. *Income/Business Tax Return (For ABCs above P500,000.00)*

For Procurement of Infrastructure

1. *Upon submission of quotation*
   a. *Valid PhilGEPS Registration Number / Organization ID*
   b. *Valid Mayor's/Business Permit*
   c. *Valid PCAB License*

2. *Upon issuance of NOA*
   a. *Omnibus Sworn Statement (shall be required only for procurement projects with ABC above P50,000.00)*
   b. *Income/Business Tax Return (For ABCs above P500,000.00)*

**Requirements under Section 53.6 (Scientific,Scholarly or Artistic Work, Exclusive Technology and Media Services) of the revised IRR of RA No. 9184 will not apply to artists such as singer, performer, poet, writer, painter and sculptor who are engaged in business.*

***Requirements under Section 53.10 (Lease of Real Property or Venue) of the revised IRR of RA No. 9184, specifically Mayor's/Business Permit, PhilGEPS Registration Number and Income/Business Tax Return will not apply to government agencies as lessors.*

****For methods of procurement requiring Mayor's Permit and PhilGEPS Registration Number, valid Certificate of Platinum Membership may be submitted in lieu of the said documents.*

C. Terms and Conditions

1. *Additional requirements, if necessary, may be requested by the BAC depending on the item to be bid;*
2. *All transactions are subject to creditable withholding tax and final Value Added Tax or percentage tax per revenue regulation/s of the BIR;*
3. *Liquidated damages of at least equal to one-tenth of one percent (0.001) of the cost of the unperformed portion for every day of delay shall be imposed by the DOST-ASTI pursuant to Section 68 of the revised IRR of RA No. 9184; and*
4. *The DOST-ASTI reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised IRR of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.*