GOVERNMENT OF PAKISTAN
PAKISTAN METEOROLOGICAL DEPARTMENT
PROJECT IMPLEMENTATION UNIT (PIU)
MODERNIZATION OF HYDROMET SERVICES OF PMD IN PAKISTAN/ STRENGTHENING HYDROMET AND CLIMATE SERVICES

PMD-PIU (MoR)Vol-1/2024 Islamabad, 3rd January 2025

MEMORANDUM

Subject: Minutes of Pre-Bid Meeting: Request for Bids for Supply, Installation and Commissioning of Automatic Weather Stations (AWS) and Agromet Sensors

Pursuant to the provision of a Specific Procurement Notice (SPN) and the subject RFB, a pre-bid session was successfully conducted on December 19, 2024, at the PMD Headquarters, Sector H-8/2, Islamabad in a hybrid mode. The session was organized as part of the World Bank-funded project "Modernization of Hydromet Services of PMD for Pakistan." (Component II: Strengthening Hydromet and Climate Services under Integrated Flood Resilience and Adaptation Project (IFRAP).

The primary objective of the session was to provide detailed information about the technical and financial part(s) of the bidding documents along with the procurement process and to clarify and respond to any query/question of the bidders.

A total of 12 in-person and 24 virtual participants attended the session, representing a diverse range of international manufacturers, experts, and local distributors. The session was recorded, and participants actively engaged by asking questions both in person and virtually. Their queries and corresponding responses are included in the appendix of this report.

A comprehensive presentation on the key requirements of the published Bidding Documents for the Automatic Weather Stations and Agromet Sensors.

The queries and their responses as exchanged in the pre-bid session are as follows:

Sr#	Question/ Query	Response
1.	Which JV partner meets the qualification criteria for AWS projects, specifically the $2 million benchmark? In this bidding that a bidder within a Joint Venture (JV) lacks experience in installing Automatic Weather Stations (AWS) and has not previously undertaken a contract of similar magnitude (i.e., USD 2 million), what implications would this have on their eligibility to participate in the bidding process?	Please refer to (b) Specific Experience (Each Lot) - Section III - Evaluation and Qualification Criteria, for a joint venture, this requirement may be met by all members combined. Moreover, in the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms.
2.	What is the arrangement for duties and taxes? Will the cost be borne by the bidder? In the event that instruments are imported, who will be	Please refer to ITB 14.8 – Section I – Instructions to Bidders (ITB) regarding various types of price schedules and

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	responsible for paying the import duties, and in whose name should the shipment be imported? Is Import will be CIP terms with no W/H tax?	corresponding taxes and duties along with the roles and responsibilities of the respective parties The applicable Incoterms edition is 2020 (reference ITB 14.7 - Section II - Bid Data Sheet (BDS).
3.	Can you provide information on the civil works, soil testing, and land acquisition process for the AWS installation?	The installation of AWS requires only minor civil works. No soil testing is necessary, and the potential sites, mostly government-owned lands, are listed in the bidding documents.
4.	"Will there be a centralized storage facility for all instruments, as not all can be installed simultaneously? Release of Goods for installation. In case there would be single storage (warehouse) for complete material, how will the equipment for installation will be released? Either it will be by site or by province? Warehouse Since the delivery is CIP, who will oversee storing goods once arrived in Pakistan? Will the local and foreign component/ material be stored at the same location? Does PMD have storage facilities for each Province? Delivery Acceptance Once the foreign and local material will be received by PMD at warehouse, what would be the mechanism for inspection and delivery acceptance? Can local and foreign suppliers supply the instrument at one consolidated place or the local can transfer the instruments to the installation site?	If required, a centralized location at Karachi will be made available by the Purchaser for the temporary storage purpose only, however, the supplier will be responsible for comprehensive/ site-wise storage and other allied arrangements and security of equipment etc., including but not limited the in between logistics and movement of equipment and resources.
5.	What is the commencement date of the warranty period, and what is its duration? Additionally, will each AWS system have a separate warranty?	The warranty period commences upon operational acceptance of the installed equipment. As per Supply Schedule, instruments can be handed over and installed in batches, rather than individually, for each AWS system.

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6.	First Drawing of Annex B has multiple points for CHESTS (as Label 6). Please explain its significance and usage.	The chest acts as a junction box facilitating cable pulling through long conduits. It simplifies installation over long distances, where direct cable pulling would be difficult
7.	Under Technical Specifications of Section VII of Schedule of Requirements; Item No: 3 is enlisted as "Solar Radiation Sensor (PAR)". It is stated that the Solar Radiation Sensor is different than PAR Sensor. Do you need Pyranometer or PAR sensor? Class B is only valid for Pyranometers.	The purchaser intends to procure the Solar radiation sensor which has the capability to measure Photosynthetically active radiation (PAR) that plants use for photosynthesis. The PAR covers the portion of visible spectrum (400-700) nm used by plants for photosynthesis (Type-IV & Type V), whereas for the rest of types (I, II and III), Pyranometer capable of calculating solar radiations is needed.
8.	Under Technical Specifications of Section VII of Schedule of Requirements; Item No: 4 is enlisted as "Pressure Sensor". The mentioned specs are usually used for Aviation grade AWS, which has significantly higher cost. Are you strict with the required specifications or can accept the specifications being usually used for the AWS.	In meteorology, Pressure sensor is one of the most important sensors helpful in detection of low and high pressure and system propagation. All the branches of meteorology (aviation, marine, weather forecast, Numerical weather prediction) depends upon pressure. Yes, Purchaser intends to procure pressure sensor which are normally integrated in AWS and serve the purpose of any aspect of meteorology i.e., aviation, marine, gromet or weather forecasting etc. These specifications are generally used in all types of meteorological fields.
9.	Under Technical Specifications of Section VII of Schedule of Requirements; Item No: 5 & 14 is enlisted as "Rain Gauge (Tipping or Weighing Type)". Price difference of Tipping and Weighing Type is quite high (usually more than 3 times). Due to this, all the respondents would quote you Tipping Type of Rain Gauge. Page 96 – rain gauges Can you please specify how many tipping bucket and weighing type are required? Technical specifications: Rain Gauges: It is not clear the number of weighing rain gauges and the	The purchaser intends to procure 300 rain gauges as mentioned in Page-90 of the bidding documents. Tentatively 50 out of 300 will be weighing type (preferably all Type-VI). The sites list is attached as Annex-A to the bidding document.

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	site where they have to be installed. Cal you clarify?	
10.	For the Meteorological Information and Processing System (MIPS), do we have to provide the Hardware (Servers, UPS, etc.) as well or ONLY software and configuration services are required?	The bidder is required to provide software and configuration services along with the details of proposed hardware requirements/ specifications. The hardware (Servers and UPS etc.) shall be procured by the Purchaser separately.
11.	If we participate as JV, can we run the FAT at the local setup of the JV?	Yes, subject to meeting the requirements given at 5. Inspections and Tests (Section VII - Schedule of Requirements) and relevant sections of the as issued RFB.
12.	GCC 16.1: Payment on Supply of Goods from abroad should be made on following milestones: On Shipment: 80%; On Installation: 10%; On Acceptance: 10% Payment on Supply of Goods from local country should be made on following milestones: On Delivery: 80%; On Installation: 10%; On Acceptance: 10% Payment terms It is possible to consider a payment term for abroad according to Section IX of World Bank Procurement Rules (Special Conditions of Contract), "The special conditions of Contract Shall Supplement and/or amend the General Conditions of Contract. Page 146 - GCC 16.1 Due to the dimension of the project and consequent initial high disbursement, we suggest changing the payment conditions, allowing advance payment with a security or guarantee issued by a recognized bank or financial institution submitted as advance payment guarantee. We even suggest recognizing a percentage of payment at delivery, after goods inspection, not only after delivery and installation as mentioned in GCC 16.1.	The payment conditions in GCC 16.1 – Section IX – Special Conditions of Contract are (being) amended as below: i. 10% mobilization advance against submission of equivalent amount of bank guarantee. ii. 60% at supply and installation iii. 30% on final acceptance For details, Addendum No. 1 may be consulted in this regard – to be published/ uploaded on the respective forums in due course.
13.	Terms of Payment: Currently it is written as 60 days. Kindly consider it to be made within 30 days.	This clause remains unchanged.

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14.	GCC 28.5 & 28.6: Please make this time realistic and practical considering the importation time and travel time of team for replacement.	The repair and replacement period given in GCC 28.5 and 28.6 is considered to be appropriate and cannot be amended.
15.	Bid Security Bid Security is not clear in the tender document. It is stated that bid security declaration is required. Kindly explain the bid security declaration? Is there any type of Bank Guarantee required or not? Just a declaration on Firm's Letterhead would suffice? Bank Guarantee In the BDS, there is a form for the bid security, but the amount is not specified. Please specify the amount or percentage.	Please refer to ITB 19.2 – Section I – Instructions to Bidders (ITB). Bid Securing Declaration is neither a Bank Guarantee nor a Financial Instrument and the bidder(s) shall use the form included in Section IV, Bidding Forms. There is no other sort of bid security instrument admissible in line with ITB 19.3(d) - Section II - Bid Data Sheet (BDS)
16.	Separate Lots If a Firm is interested in participating in both Lots, will it have to submit 2 different bids or a single bid for Lot 1 and Lot 2 would suffice?	To avoid any possible discrepancy, it is recommended to prepare separate packages/ envelopes/ bids of each lot clearly mentioning all the requisite details together with the lot number and description.
17.	Due to the importance and dimension of the project, it's Christmas and New Year period and we have to deliver hard copies of the offer (by courier or by travelling to Pakistan), we ask you to extend the delivery date at least for 4 more weeks, up to 13 of February 2025. Any Extension in last date of submission?? And relaxation in the payment terms?	The submission date of January 16, 2025 is (being) extended till January 30, 2025 – to be published/ uploaded on the respective forums in due course.
18.	List of stations To estimate logistic cost please share station location and coordinates. Coordination with site in-charge Since it was discussed during the out-reach session that sites are located in public buildings like PMD observatories, Schools, universities, colleges, and other administration offices. Please confirm if they are notified and exact area for installation has been finalized in each of these buildings OR are yet to be finalized at the time of installation?	The information is attached as Annex-A "Sites List" to the bidding document.
19.	Can you please specify how many of them must be heated?	Twenty-Eight (28), see Type-III at page 90.

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20.	Page 97 – Soil Moisture and Temperature Sensor at Separate depths You're asking for different sensors for each depth. At the same time, you're talking about a probe. Are you looking for a single probe or 6 different sensors? In case of single probe, can you please open the specifications since it refers to a unique and specific product?	The purchaser intends to procure six different sensors at mentioned depths, which are capable to measure both soil moisture and temperature. Moreover, the protection above ground is needed.
21.	Page 97 – Evaporation pan with gauge Does the evaporation pan require evaporation platform? Does the ground be levelled where the evaporation pan is installed?	Yes, the selected sites are already levelled in most of the places.
22.	Page 98 – Lysimeter Can you confirm that lysimeter is used to determine water balance and evapotranspiration will be calculated by knowing the amount of rain fallen? The specifications given refer to a very specific product. Can you confirm that lysimeter with similar dimensions (diameter 50cm ± 15cm, depth 50cm ± 15cm) with the same technical characteristics and accuracy is acceptable for you?	Weighing lysimeters are sophisticated instruments that measure evapotranspiration (ET)—the combined loss of water from soil evaporation and plant transpiration—by precisely tracking weight changes in a contained soil volume over time. If it serves the purpose, the dimension will be acceptable keeping in view the sample volume 98L. The ranges are acceptable if they fulfil the same technical characteristics and accuracy: dimensions (diameter 50cm ± 15cm, depth 50cm ± 15cm) .
23.	Page 102 - Datalogger Power Option: • The data logger should operate both on AC and DC power supply. • Two AC sockets for external usage. Data logger for environmental monitoring applications are designed and developed to be low power consumption since they are installed in very remote areas, with AC not available, for this reason they are all powered by direct voltage DC. There's only one brand that produces loggers that can operate both on DC and AC power supply. For fair and open competition, we kindly ask you to remove this requirement.	Agreed: Certified AC-to-DC power adapter that meets relevant safety standards and fit with in the enclosure will be acceptable.

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	Please replace "The data logger should operate both on AC and DC power supply." with "The data logger should operate on DC power supply 9 to 15 VDC. In case of availability of AC power supply the supplier should provide the appropriate power transformer to power the datalogger".	
24.	Page 104 - Self-recording Automatic Rain Gauge with Data Logger complete Communication (Built in GPRS) Can you please specify the difference between this self-recording rain gauge and a pluviometry station with rain gauge, datalogger, power supply and transmission system?	Both are same as "A pluviometry station is a weather station specifically designed to measure and record rainfall".
25.	Heating for sensors Can you please specify how many sensors must be supplied with a heating system? Is main power supply available for heated sensors? Otherwise 60W solar panel and 50Ah battery are not enough to power them.	Twenty-eight sites, see Type-III at page 90. In most of the sites, the main power is available.
26.	Security of Equipment Once the equipment/material will be delivered at installation site, who will be responsible for security of the equipment as all is not going to be installed in one go. Will there be any store room available at each site?	It will be the responsibility of the bidder during installation; however, Purchaser will be responsible for security of equipment after handing over and acceptance of the same. The site-specific storage arrangement will be the bidder's responsibility.
27.	Security of Team As sites are located in Baluchistan and KPK region and there are security concerns related to these areas, how is PMD planning to address security concerns?	Bidder will responsible for security of Team and equipment, however, Purchaser will support the bidder in arranging any approvals from the Government Departments. The bidder(s) while quoting/ complying with the supply and installation schedule shall take into consideration all the said matters to avoid any later/ possible discrepancy in the said regard.
28.	Provisional Acceptance Once the equipment is installed at a site, will installation at each site be tested against provisional SAT at each site? Once the provisional SAT is done at site, will the equipment security be the responsibility of the site in-charge?	After successful installation, data communication and handing over, the site will be the responsibility of Purchaser.

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29.	SAT What would be the mechanism of SAT? Will all sites be tested one by one OR will random sites be tested or a complete testing will be carried out using software?	After successful installation and data communication, the sites will be tested one by one.
30.	Technical specifications: Evaporation Pan: Can be the evaporation pan changed with an Algorithm recognized by WMO for the calculation of evapotranspiration, considering that the algorithm is more accurate and doesn't require any maintenance?	Currently, the Purchaser is interested in procuring Evaporation Pan. For evapotranspiration, the Purchaser is procuring lysimeters. The evaporation pan should automatically calculate evaporation and data must be stored in data logger and same should be transmitted.
31.	The document outlining the technical requirements does not clearly specify the type of instruments required for air quality measurements. Should these be: ○ Reference instruments based on reference methods (e.g., UV absorption for O_3, chemiluminescence for NO_x, and non-dispersive infrared (NDIR) absorption for CO) installed in an air-conditioned container placed on the ground, ○ Reference analyzers in a more compact case, or Low-cost sensors for both particulate matter (PM) and gases?	There are various types of instruments for air quality measurement, and the bidder may quote any of those to meet the minimum requirements presented in the bidding documents. However, the AQ sensors should easily integrate with AWS data logger (Type-II) page-90 of bidding document.
32.	Regarding the required detection limits, do you mean the measurement ranges as follows? 2. NO_2: 0 to 20 ppm (20,000 ppb) 3. NO: 0 to 250 ppm (250,000 ppb) 4. O_3: 0 to 10 ppm (10,000 ppb) 5. CO: 0 to 300 ppm (300,000 ppb)	Yes, it is confirmed that the ranges are: o NO_2: 0 to 20 ppm o NO: 0 to 250 ppm o O_3: 0 to 10 ppm o CO: 0 to 300 ppm It is also to clarify that 1ppm= 1000 ppb However, Keeping in view the various queries we have revised the ranges and accuracy as follows; Accuracy for Particulate Matters (PM1; PM 2.5; PM10): ±10–15% **Detection Limits**: PM1 : 1–1000 µg/m³ PM2.5: 1–1000 µg/m³ PM10: 1–2000 µg/m³ Accuracy for Ozone (O_3): ±5 ppb

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		Detection Limits:1–1000 ppb (0.001–1 ppm) Accuracy for Nitrogen Dioxide (NO_2): ±5–10 ppb **Detection Limits**: 1–500 ppb (0.001–0.5 ppm) Accuracy for Carbon Monoxide (CO): ±5% **Detection Limits**: 0.1–1000 ppm Accuracy for Sulfur Dioxide (SO_2): ±2–5 ppb **Detection Limits**: 0.1–1000 ppb (0.0001–1 ppm)
33.	Do you require different measurement ranges for NO_2 and NO, even though both gases are typically measured by the same reference instrument?	The ranges for NO_2 and NO are different. Typical range for NO_2: 0–500 ppb (0–0.5 ppm) Typical range for NO: 0–1000 ppb (0–1 ppm)
34.	Can you confirm that the required accuracy for PM measurements is ±5%? The EU standard for reference-grade PM measurements requires an uncertainty of 25%.	It is confirmed that the accuracy is ±5%, however it is clarified that the accuracy is different than uncertainty. Accuracy is defined as how close are the measurements in reference with the true value. Uncertainty is defined as how close are the measurements one face to the other, and not to the real value.
35.	Combined Wind speed and wind - Is it possible to delivered sensor with measuring range from 0 to 60 m/s as there is requirement for mast to withstand wind up to 60 m/s?	The combined wind speed and wind direction that has a minimum measuring range from 0 to 60 m/s and gust survival: 100m/s (min. 30 minutes)
36.	Soil Moisture and Temperature Sensor at separate depths (5cm, 10cm, 20cm, 30cm, 50cm, 100cm): Is it feasible to propose probes with a measuring range from -20 to +60°C, as we consider this range suitable for local conditions in Pakistan?	In the technical specifications, it is mentioned as minimum requirement operation temperature -40- +60°C or better as per WMO standards and those standards need to be followed. The sensors are installed under Type-IV and Type V for agromet stations
37.	Data Logger: Data logger should communicate to central system and respond to polls from it. Is the central system already installed? Can you provide us with protocol for communication between data logger and central system?	The communication protocols that will be used are listed in the technical specifications as minimal requirements and these are: ○ TCP/IP ○ Hypertext Transfer Protocol, HTTP;

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	Free of charge intervention during integration of new sensors is required during 10 years. Please confirm this is software support only, i.e. the vendor is not expected to deliver any hardware in order to integrate new sensors. This is open requirement - can you specify set of sensors which might be integrated in the future?	○ File Transfer Protocol, FTP; ○ Simple Mail Transfer Protocol, SMTP; ○ Network Time Protocol, NTP; The bidder may provide a complete solution including communication hardware (both at sending and receiving ends with redundancy) so that the weather-related sensors will be integrated and functioning as required. Regarding the expansion with new sensors in a period of 10 years, the supplier shall provide all the necessary support, if this is not provided and fully covered through training lessons. The above requirement is applicable to all the sensors type that can be connected through the extra channels and with that the datalogger must have as minimum requirments to be provided by the supplier.
38.	Regarding PM Particles: Current Specification: The sensor specifications list detection limits for PM1, PM2.5, and PM10 as 0-1000 µg/m³. Question: Is the provided range (0-1000 µg/m³) intended to be the detection limit or the concentration range? If it is the concentration range, what are the actual detection limits for these particle sizes?	It is confirmed that the value 0-1000 µg/m³ is the concentration range. The actual detection limits should be: ○ PM1- 0.2 µg/m3 ○ PM2.5- 1.3 µg/m3 PM10- 1.4 µg/m3
39.	Regarding Gases: Current Specification: Detection limits are listed as 20 ppm for NO2, 250 ppm for NO, 10 ppm for O3, and 300 ppm for CO. 1. Question: Are the provided detection limits for gases accurate, or should they be adjusted? Specifically, is there a lower bound for the detection limits (e.g., 0 ppm or ppb), and what are the upper limits for these gases?	The value for gases detection limits as listed in the specification are the upper values.
40.	Accuracy for Particles: Current Specification: Accuracy for PM1, PM2.5, and PM10 is listed as ± 5%.	It is confirmed that the accuracy for PM1, PM2.5, and PM10 is listed as ± 5%. Also, the supplier should present the documents that are listed in the bidding

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	Question: Is the ± 5% accuracy standard for the particle sizes suitable for the specified concentration range? Are there any additional calibration or precision requirements for these measurements? Mast: Is it feasible to propose a 10-meter mast, constructed from more than three sections and supported by three guy-wires, that is tiltable and can be maintained with fewer than four operators?	document at No. 5 - Inspections and Tests, Calibration Certificate. The other structure (sections) solution of the mast is acceptable, if the minimum requirements are met.
41.	• Accuracy Specifications: • Accuracy for Gases: • Current Specification: Accuracy is listed as ± 5 ppm for NO2, ± 8 ppm for NO, ± 6 ppm for O3, and ± 190 ppm for CO. • Question: Given the detection limits provided, does the accuracy specification meet the required standards for urban air quality monitoring? Should the accuracy be tighter, particularly for lower concentration ranges?	Ideally, the current specification does not meet the standards for Urban air quality. However, it is expected that the bidder should ensure the accuracy for gases should meet the required standards for urban air quality monitoring. Accuracy for Particulate Matters (PM1; PM 2.5; PM10): ±10–15% **Detection Limits**: PM1 : 1–1000 µg/m³ PM2.5: 1–1000 µg/m³ PM10: 1–2000 µg/m³ Accuracy for Ozone (O_3): ±5 ppb **Detection Limits**:1–1000 ppb (0.001–1 ppm) Accuracy for Nitrogen Dioxide (NO_2): ±5–10 ppb **Detection Limits**: 1–500 ppb (0.001–0.5 ppm) Accuracy for Carbon Monoxide (CO): ±5% **Detection Limits**: 0.1–1000 ppm Accuracy for Sulfur Dioxide (SO_2): ±2–5 ppb **Detection Limits**: 0.1–1000 ppb (0.0001–1 ppm)
42.	Experience may be relaxed i.e. of 2 million USD of AWS installation only, And in order to enable local bidders to be part of this process its manufacturer experience may be considered.	Please refer to Qualification Criteria (ITB 32.1) - Section III - Evaluation and Qualification Criteria. The said requirements are already quite reasonable considering the scope of work/ requirements and it needs to be understood that the potential bidders shall demonstrate certain technical and financial capacities and capabilities to undertake successful contract delivery and completion.

Sr#	Question/ Query	Response
43.	In absence of LC, 60 % payment will be made not on the installation but subject to the submission of documents mentioned in the GCC? Kindly clarified.	Please refer to GCC 16.1 - Section IX – Special Conditions of Contract regarding the payment mechanism.
44.	Can consortium be part of the process?	Please refer to 6. Joint Venture, Consortium or Association - Section VIII - General Conditions of Contract and other relevant sections/ clauses of the as issued RFB regarding JV and corresponding areas.
45.	Why the supply is divided into three types and two lots?	Considering scope of work/ requirements, the supply and installation requirements have been divided into phases. However, bidders may propose a single-phase delivery approach if they prefer to do so.
46.	Please clarify, at the page 89 to 90 of the bidding documents that includes the delivery and installation of the instruments. Further the time is 33 months for delivery only not for installation.	Reference to page 89-90, please consider it as supply and installation (complete solution), regarding page 91, it is the maximum allowed time to complete the project in all aspects.
47.	Regarding the Lysimeter Our principal has raised some critical issues that need to be addressed to avoid any complication while submitting the bids: i. One of the most expensive components of the required equipment is Lysimeter, for which installation must be done by the technicians of the OEM Lysimeter as per info received from the manufacturer. ii. It requires periodic maintenance, suggested every 3-6 months (additional costs), and must always be done by technicians of the manufacturer of Lysimeter who must be flown from abroad each time. These additional costs must be in the departmental budget. iii. Another technical issue is that Lysimeter cannot be read by an external data logger. Lysimeter technology holders have their own specific cloud portal where they send the data. iv. Moreover, all measuring positions must be freely accessible and easily accessible for carrying out the work. It requires a rather large free area for operations, at least 5x5m, which must be considered in civil works. This means that the	Bidders are required to submit their bids considering all the said and other such factors as deemed necessary and needs to be costed/ priced accordingly.

Sr#	Question/ Query	Response
	Lysimeter is a product for which we cannot take any responsibility.	
48.	Specific experience The Bidder shall demonstrate that it has successfully completed at least two (02) contracts within the last fifteen (15) years prior to bid submission deadline, each with a value of at least Two (02) Million USD deploying at least 100 or more AWS in total under each contract that have been successfully and substantially completed and that are similar in nature and complexity to the Goods and Related Services (Automatic Weather Stations consistent with the Technical Specifications and other such requirements given in this RFB).	Please refer to Qualification Criteria (ITB 32.1) - Section III - Evaluation and Qualification Criteria. This relates specifically to the AWS and no other/ manual station would be considered in lieu of AWS as detailed hereto and in the as issued RFB.

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