ITEM OPPORTUNITY SYNOPSIS

Name of the item to be scouted: Automatic Weather Station comparable to Vaisala AWS310

State item to be used in: Alska

Describe the Item:

Please describe the item application/the end use of item. The National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) Alaska Region (AR) maintains an Observation Network compressed of Surface Observation Platforms throughout Alaska in remote locations. These OBS sites transmit data via GOES/Modem/TCPIP hourly aiding in the collaboration and forecasting process. The Alaska Region requires one (1) Automatic Weather Station comparable to Vaisala AWS310 in order to continue the replacement of obsolete systems within their OBS network.

Supplier Information:

Type of Supplier being sought (select from list below)

Manufacturer Contract Manufacturer Distributor Other (please specify)

Reason for scouting submission (select from list below)

| 2 nd Supplier |
|-----------------------------------|
| Price |
| Re-Shore |
| Past supplier no longer available |
| New Product Startup |
| BABA |
| Other (please specify) |
| |

Summary of Technical Specifications and Performance Requirements:

Describe the manufacturing processes (elaborate to provide as much detail as possible). Automatic Weather Station is a weather data collection system that automatically measures, processes, and stores meteorological data for professional use. This station can be operated as a standalone unit, or it can be connected with other compatible Vaisala weather stations to form weather observation networks. The station can be used for several applications, such as synoptic, aviation, and agricultural meteorology, hydrology, and

climatology. It is a complete communication and data monitoring solution including sensors, electronics, mast, and power supply.

Provide dimensions / size / tolerances / performance specifications of the item. The weather stations and instruments are fully compliant with World Meteorological Organization guidelines. To ensure continuous accuracy of measurements and calculations, the station must include built-in data quality controls that test sensor data against minimum and maximum limits and changes between successive measurements. The weather station's QML data logger continuously monitors the status of the sensors to ensure measurement reliability, notifying the user if the status of any sensor becomes invalid. All the sensors operate independently from each other, meaning that an individual sensor failure does not affect the performance of the other sensors. see attached for detailed specs

List required materials needed to make the product, including materials of product components, if applicable. See Attached

Are there applicable certification requirements?

Yes

No

Please Explain:

Are there any applicable regulations that apply to the production of this item?

Yes

No

Please Explain:

Are there any other standards, requirements?

<mark>Yes</mark>

No

Please Explain: Fully compliant with World Meteorological Organization guidelines <u>https://public.wmo.int/en/resources/standards-technical-regulations</u>

Additional Comments:

Additional technical comments: All equipment must be fully compatible (form, fit, and function) with existing OBS network without need for modification, this includes the software components that may be necessary to use with the existing network.

Volume and Pricing:

Estimated Potential Business Volume (i.e. #Units per day, month, year): One-time-purchase Estimated Target Price / Unit Cost Information: \$68,564.00 for the system

Delivery Requirements:

When is it needed by? (Immediate, 30 days, 6 months, etc) June 30, 2024

Describe packaging requirements (i.e., individually/ group packaging). Packaging requirements not specified.

Where will this item be shipped? 6930 Sand Lake Road, Anchorage, AK 99502

Additional Comments:

Is there other information you would like to include? This is a Simplified Acquisition, which has a shorter lead time to completion than an action over \$250,000.00. It is expected that this requirement will be awarded within the next 60 days, and any timely scouting (requested completed within 15 days from submission) would be appreciated to align with Simplified Acquisition requirements for posting and the Buy American Act Waiver process.

VAISALA



Features

- Complete solution for weather data collection
- Common options preconfigured, fully customizable for special needs
- WMO-compliant sensors for validated data
- Remote configuration
 management
- Easy remote monitoring of network status using the optional NM10
- Long calibration intervals
- Fast delivery for preconfigured systems

Automatic Weather Station AWS310

Vaisala Automatic Weather Station AWS310 has everything that you need for taking accurate and reliable weather measurements. It is a complete communication and data monitoring solution including sensors, electronics, mast, and power supply.

An all-in-one solution with many applications

Vaisala Automatic Weather Station AWS310 is a weather data collection system that automatically measures, processes, and stores meteorological data for professional use. AWS310 can be operated as a standalone unit, or it can be connected with other compatible Vaisala weather stations to form weather observation networks.

AWS310 stations can be used for several applications, such as synoptic, aviation, and agricultural meteorology, hydrology, and climatology. Using the same standard hardware and software for many purposes lowers the cost of training, spare parts, and logistics support.

Validated data from reliable sensors

Vaisala weather stations and instruments are fully compliant with World Meteorological Organization guidelines. The design quality of Vaisala weather stations has been proven with extensive tests in the development phase and on the field.

To ensure continuous accuracy of measurements and calculations, AWS310 includes built-in data quality controls that test sensor data against minimum and maximum limits and changes between successive measurements. The weather station's QML data logger continuously monitors the status of the sensors to ensure measurement reliability, notifying the user if the status of any sensor becomes invalid. All the sensors operate independently from each other, meaning that an individual sensor failure does not affect the performance of the other sensors.

Maintenance made easier

For AWS310 networks, the Vaisala Observation Network Manager NM10 software provides a powerful browserbased interface for 24/7 monitoring, access, and control of all your observation sites. Continuous, reliable observations improve the performance of your weather services and weathercritical operations, while shorter site visits and correct maintenance actions save time and money.

Even without the optional NM10 software, it is possible to adjust settings and fix problems remotely. The Vaisala AWS Client software, that is included in each AWS310 delivery, supports setup, diagnostics, and data retrieval. The AWS310 StationView GUI allows the user to view basic station information, sensor status, and readings, to set site-specific parameters, and to perform many other functions using a graphical user interface.

AWS310 can also automatically download a new configuration file from a network server, making maintenance even easier.

Technical data

Operating environment

| Operating environment | Outdoor use |
|---|--|
| Use in wet location | Yes |
| Operating temperature ¹⁾ | -40 +60 °C (-40 +140 °F) |
| Extended operating temperature (project delivery) | -60 +50 °C (-76 +122 °F), cold start at -40 °C (-40 °F) |
| Storage temperature ²⁾ | -60 +70 °C (-76 +158 °F) |
| Operating humidity | 0 100 %RH, non-condensing |
| Pollution degree | 2 |
| Maximum operating altitude | 3000 m (approx. 9800 ft) |
| | |

Excluding backup battery, QMD202, QST102-3, cellular modem, QMN101, RG13(H), SR50A, and PAA-36 X W. See the manufacturer documentation.
 Excluding cellular modem, HMP155, and HMP110. See the manufacturer documentation.

Compliance

| EU directives | Low Voltage Directive (2014/35/EU) EMC Directive (2014/30/EU) RoHS Directive (2011/65/EU) amended by 2015/863 |
|-------------------|--|
| EMC compatibility | EN 61326-1, industrial environment |
| Electrical safety | EN 61010-1 |
| Compliance marks | CE, RCM |

Environmental compliance

| Test | Applied standard or test procedure | Specification |
|------------------------|---------------------------------------|--|
| Operation | | |
| Cold | IEC 60068-2-1 | -40 °C (-40 °F) |
| Dry heat | IEC 60068-2-2 | +60 °C (+140 °F) |
| Vibration (sinusoidal) | IEC 60068-2-6 | Frequency range 5 200 Hz 1.2 mm/s velocity, 5 12 Hz 0.7 g, 12 200 Hz |
| Shock | IEC 60068-2-27 | 5.0 g, pulse duration 11 ms with 100 pulses in each direction |
| Damp heat, cyclic | IEC 60068-2-30 | +40 °C (+104 °F) / 85 95 %RH |
| Vibration (random) | IEC 60068-2-64 | 5 100 Hz |
| Storage | | |
| Cold | IEC 60068-2-1 | -60 °C (-76 °F) |
| Dry heat | IEC 60068-2-2 | +70 °C (+158 °F) |
| Damp heat, cyclic | IEC 60068-2-30 | +40 °C (+104 °F) / 85 95 %RH |
| Transport | | |
| Shock | IEC 60068-2-27 | 18 g, pulse duration 6 ms, with 100 pulses in each direction |
| Rough handling | IEC 60068-2-31 | Drop height 60 cm (23.62 in) |
| Vibration (random) | IEC 60068-2-64 | 5 200 Hz |

EMC compliance

| Test | Applied standard or test procedure | Specification |
|--|---------------------------------------|---|
| Emissions radiated | CISPR 32 / EN 55032, Class B | 30 MHz 2 GHz |
| Emissions conducted to mains (AC) | CISPR 32 / EN 55032, Class B | 150 kHz 30 MHz |
| Emissions conducted to telecommunication lines | CISPR 32 / EN 55032, Class B | 150 kHz 30 MHz |
| Emissions, harmonic current | EN 61000-3-2 | 0 40th harmonic |
| Immunity to RF field (80 MHz 6 GHz) | EN 61000-4-3 | 11 V/m (80 MHz 1 GHz) 4 V/m (1 GHz 6 GHz) |
| Immunity to electrical fast transient | EN 61000-4-4 | 2 kV AC, 1 kV I/O |
| Immunity to surge | EN 61000-4-5 | 2 kV / 1 kV AC, 1 kV I/O |
| Immunity to conducted RF | EN 61000-4-6 | 4 V e.m.f. (150 kHz 80 MHz) |
| Immunity to voltage dips and short interrupts | IEC 61000-4-11 | 0 % 1 cycle 40 % 10 cycles 70 % 25 cycles 0 % 250 cycles |

Powering specifications

| AC (mains) power | 100 240 V AC, ±10 % 50 60 Hz 5.6 A maximum (120 V AC) |
|-------------------------|---|
| Mains fuse (nominal) | 10 A |
| External DC | 16.8 26.4 V DC 10 A maximum |
| Solar panel | 70 W 15.5 30 V DC 2.5 A maximum |
| Internal backup battery | 12 V / 26 Ah or 12 V / 52 Ah |
| Backup battery fuse | 10 A |
| Overvoltage category | II |

ENC652 specifications

| Approvals | UL 50 / UL 50E-listing |
|-----------------------------------|---|
| IP rating | IP66 |
| NEMA rating | NEMA 4X |
| Material | Stainless steel AISI 316, painted white |
| Size (enclosure only) | 600 × 500 × 207 mm (23.62 × 19.68 × 8.15 in) |
| Weight (excluding backup battery) | 28.9 kg (63.7 lb) |
| Maximum wind speed | 75 m/s (168 mph) |

Standard sensor options

| Wind speed and direction | WMT700, WA15 (dual sensors available) |
|---|---|
| Weather transmitter | WXT531, WXT532, WXT535, WXT536 |
| Athmospheric pressure | BARO-1 (Class A accuracy), PTB330 (Class A accuracy, with 3 transducers) |
| Air temperature, relative humidity, and dew point | HMP110, HMP155 |
| Rain/Precipitation | RG13(H), OTT Pluvio ² L |
| Global solar radiation | SMP3, SMP6, SMP10, SMP21, SMP22, SP Lite2 |
| Net radiation | QMN101 |
| UV radiation | SUV5 |
| Visibility and present weather | PWD22 |
| Cloud height and sky condition | CL31 |
| Ground temperature | QMT110 |
| Snow depth | SR50A |
| Water level | VEGAPULS 61, PAA-36 X W |

Standard communication options

| Wireless communication | 4G LTE cellular modem with seamless fallback to 2G and 3G networks Five-band 3G cellular modem (with quad-band GSM GPRS support) |
|-------------------------------|---|
| Landline communication | RS-232, RS-485, LAN |
| Data collection software | Vaisala Observation Network Manager NM10 |
| Satellite communication | Vaisala GOES DCP Transmitter QST102-3 |
| Maintenance terminal software | Vaisala AWS Client with StationView GUI |
| | |

For other data validation, calculation, report, mast, powering, sensor, communication data collection software options, and measurement unit conversions, contact Vaisala.

Standard accessories

USB maintenance cable Removable 2 GB CF memory card



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