JUSTIFICATION FOR OTHER THAN FULL AND OPEN COMPETITION USING SIMPLIFIED PROCEDURES FOR THE ACQUISITION OF COMMERCIAL PRODUCTS AND SERVICES (AUTHORITY: 41 U.S.C. 1901)
1305M226Q0021

1. **Agency and contracting activity.** Department of Commerce, NOAA Acquisition and Grants Office (AGO), Eastern Acquisition Division and Platform and Infrastructure Acquisition Division (PIAD), Aircraft Acquisition Program Management Office (PMO).

2. **Nature and/or description of the action being approved.**

   NOAA intends to award a new Sole Source Indefinite Delivery, Indefinite Quantity (IDIQ) contract with the capability to award firm fixed price (FFP) delivery orders to Skyfora OY (Skyfora) for Skyfora StreamSonde dropsonde to include Operation and Technical Support Services.

3. **Description of supplies or services required to meet the agency's needs (including the total estimated value).**

   This requirement is for the supply of the observing platform Skyfora StreamSonde dropsonde. The Skyfora StreamSonde dropsonde and its associated aircraft hardware are compatible with the NOAA weather research aircraft WP-3D (P-3) and meet NOAA Readiness Level 7/8 per NOAA Administrative Order 216-105B (Policy on Research and Development Transitions, Final System Transitioned into Operations). The compatibility with the P-3 has been tested and demonstrated through development initiatives. The Skyfora StreamSonde dropsonde is designed to be deployed from the P-3 to safely collect critical atmospheric measurements, specifically in the difficult and hazardous environments of Tropical Cyclones (TCs). A StreamSonde dropsonde is deployed to obtain detailed profiles of atmospheric pressure, temperature, moisture, and wind from the aircraft altitude down to the air-sea boundary, where energy and momentum are exchanged with the sea and where severe winds at landfall can directly affect the lives and property of millions of Americans every year. Skyfora has continued to enhance the system's capabilities, successfully deploying the StreamSonde dropsonde into multiple TCs over time.

   The minimum requirements for StreamSonde dropsondes to achieve interconnectivity and interchangeability within NOAA's Fleet systems primarily revolve around adhering to the existing standards for data format, sensor capabilities, and communication protocols used by NOAA's Airborne Vertical Atmospheric Profiling System (AVAPS) and related dropsonde systems. The requirements for the dropsonde are as follows:

   1. Core Meteorological Data Parameters

   The dropsonde must measure the fundamental atmospheric parameters that are standard for all NOAA dropsonde deployments:
   - Pressure (P)
   - Temperature (T)
   - Humidity (U)

- Wind Speed and Direction (typically derived from Global Positioning System (GPS)/Global Navigation Satellite System (GNSS) positioning)

2. Data Format and Transmission Standards

For the data to be assimilated into NOAA's real-time forecasting models and archived, it must conform to:

- World Meteorological Organization Standard Format: The data must be converted into the standardized TEMP DROP code messages or a compatible format for real-time transmission to centers like the National Centers for Environmental Prediction.
- High-Resolution Data Rate: Standard GPS dropsondes provide measurements at 2 Hz (two times per second). The dropsonde data output must be at a resolution that is compatible with or better than the standard required for high-resolution processing (like NOAA's High-Resolution Dropsonde Data Archive, which often uses 2 Hz data).

3. Physical and Electronic Compatibility

Interchangeability on NOAA aircraft generally means the dropsonde must be deployable using the existing launcher hardware.

- Physical Form Factor: Although the dropsonde is noted as an ultralight dropsonde (weighing approx. 14 grams) compared to traditional GPS dropsondes (weighing approx. 350 grams), it must be compatible with the launch tube or an adapted sleeve/mechanism on the aircraft.
- Acoustic/Radio Frequency (RF) Signal: The dropsonde must transmit on a frequency and use a modulation scheme that can be reliably received by the AVAPS on NOAA aircraft.

4. Wind Measurement Accuracy

A critical requirement is accurate wind data, especially at lower altitudes near the surface.

- GNSS-based Wind Data: The Skyfora StreamSonde dorpsonde uses an in-house developed dual-band GNSS receiver for high-accuracy wind and turbulence data, which provides the modern standard for wind profile measurement necessary for TC research.

The Operational and Technical Support Services include:

- Operational support services required to conduct system test flights and TC missions.
- Development and execution of training courses for Instructors, Operators, and Observers as required by the Government.
- Engineering and software support services required to update/integrate the dropsonde system with NOAA’s TC Operational workflow.
- Delivery of engineering and software documentation.

The IDIQ contract vehicle will have an ordering period of five years, with an estimated value of $5,500,000.00.

4. Statutory authority permitting the sole source (including brand name) acquisition.

X 41 U.S.C. 1901, using Revolutionary FAR Overhaul (RFO) 12.201-1, Simplified procedures.

5. **Demonstration that the proposed contractor's unique qualifications or the nature of the acquisition requires use of the authority cited.** The contracting officer has determined the following circumstances justify the use of a Sole Source as supported below:

   Only one source: Only one source is capable of providing the supplies or services required at the level of quality required because the supplies or services are unique or highly specialized.

   Skyfora is the only vendor offering a specific, unique technology that complements or exceeds the capabilities of traditional dropsondes in certain key areas, which is why NOAA has been using them extensively for research and operational testing, particularly in TC environments, Skyfora is the Original Equipment Manufacturer of the StreamSonde dropsonde, which has unique features that provide data that traditional dropsondes cannot, which is crucial for advancing hurricane forecasting and research.

   1. Ultra-Lightweight Design and Slow Descent

      Weight: The StreamSonde dropsonde is lightweight, weighing approximately 80 grams, compared to 350 grams for a traditional dropsonde (RD41) and 216 grams for the newer NRD41.
      Slow Descent: Owing to its low mass and integrated biodegradable parachute, the StreamSonde dropsonde descends at roughly 6 m/s near sea level. This controlled, slow descent rate increases the measurement duration within the storm structures of interest — up to twice as long as a conventional dropsonde — enabling more detailed sampling of the tropical cyclone environment.

      Updraft Measurement: The lightweight construction and slower fall rate allow the StreamSonde dropsonde to respond to vertical motions in ways traditional sondes cannot. These unique measurements, processed through Skyfora's advanced wind-retrieval algorithms, yield unprecedented detail on vertical velocity fields, updrafts, and turbulent structures within tropical cyclones.

   2. Superior Wind Accuracy

      Dual-Band GNSS: The StreamSonde dropsonde incorporates an in-house–developed dual-band GNSS receiver, utilizing GPS L1/L5 and Galileo signals.

      Enhanced Data: Dual-band capability enables more accurate wind retrievals by reducing ionospheric error sources that limit single-band GPS dropsondes. It also improves the potential to derive turbulence-related quantities—especially near the surface—where dual-band measurements provide the necessary accuracy.

   3. High-Density Swarm Deployment Capability

      The small, robust, lightweight design of the StreamSonde dropsonde enables deployments in high-density swarms. When paired with the Skyfora StreamSDR receiver, up to 50 simultaneously descending StreamSondesdropsondes can be tracked and recorded in real time. This capability provides researchers with an

unprecedented, three-dimensional, high-resolution depiction of storm structure at a single time or during rapid-evolution periods—something not achievable with traditional dropsonde systems. These dense, collocated observations also enable improved verification and cross-comparison for other emerging technology platforms, including airborne drones and remote sensing instruments deployed on the P-3 aircraft, such as National Environmental Satellite, Data and Information profiling systems.

4. Near-Surface and Sea-Surface Measurements

   The StreamSonde dropsonde also shows promise in providing in-situ measurements of pressure, temperature, and altitude at the sea surface. When floating and continuing to transmit data, it directly samples near-surface conditions rather than relying on extrapolation from measurements above the surface. This capability supports improved height assignment and enhanced characterization of near-surface thermodynamic and wind conditions, including values representative of the 10 m level. These in-situ observations are particularly valuable for tropical cyclone research and provide complementary information to traditional dropsonde profiles.

   In summary, Skyfora is the sole provider of this unique combination of lightweight construction, dual-band GNSS wind-sensing technology, true swarm-deployment capability, and emerging in-situ near-surface measurement capability. This technology delivers superior wind and turbulence measurements, enables high-density sampling strategies currently unmatched by other commercial dropsondes, and supports direct observation of near-surface conditions when surface transmission is available. NOAA's Hurricane Research Division regards these capabilities as essential for accelerating improvements in tropical cyclone analysis and forecasting.

6. Description of efforts made to ensure that offers are solicited from as many potential sources as practicable, including whether a notice was or will be publicized as required by FAR Subpart 5.1 and if not, which exception under FAR 5.101(b) applies.

A Sources Sought Notice was posted to the Government-wide Point of Entry (GPE) at www.SAM.gov on January 12, 2026 through January 26,2026, allowing any vendor to respond and demonstrate their capability. In addition, an Intent to Sole Source was posted January 26, 2026 through February 2, 2026. Neither posting received any response.

7. Determination by the contracting officer that the anticipated cost to the Government will be fair and reasonable.

Prior to award of the proposed contract, a price analysis will be performed and documented to sufficiently determine that the price to the Government of the proposed acquisition will be fair and reasonable. The Contracting Officer determines that the anticipated price will be fair and reasonable in accordance with 15.404-1(b)(2), *Comparison of the proposed prices to historical prices paid, whether by the Government or other than the Government, for the same or similar items. This method may be used for commercial products or commercial services including those "of a type" or when requiring minor modifications for commercial products* and FAR 15.404-1(b)(5) *Comparison of proposed prices with independent Government cost estimates*.

8. Description of the market research conducted (see Part 10) and the results or a statement of the reason market research was not conducted.

As detailed in Section 5 above, Skyfora OY's StreamSonde is the dropsonde offering a specific, unique technology that complements or exceeds the capabilities of traditional dropsondes in certain key areas, which is why NOAA has been using them extensively for research and operational testing, particularly in TC environments. However, market research was conducted to verify the need to contract on a sole source basis. The Contract Specialist conducted market research through an internet search of the required supplies, as well as holding detailed conversations with the Program Office inquiring about the sole source nature herein. No other sources were found to be able to provide the supplies needed.

9. Any other facts supporting the use of a sole source (including brand name), such as:

All pertinent facts have been documented with other sections of this document.

10. List of the sources that expressed a written interest in the acquisition.

The Government did not receive any written interest in the acquisition.

11. A statement of the actions, if any, the agency may take to remove or overcome any barriers to competition before any subsequent acquisition for the supplies or services required.

The Government will continue to conduct market research to gauge marketplace capabilities for future acquisitions to determine whether there are new companies/providers available that can meet NOAA/OMAO requirements for dropsonde that exceeds the distinctive features that provide data that traditional dropsondes cannot, which is crucial for advancing hurricane forecasting and research.