Mississippi State University
Notice of Proposed Sole Source Purchase

256-077

Mississippi State University anticipates purchasing the item(s) listed below as a sole source purchase. Anyone objecting to this purchase shall follow the procedures outlined below.

1. Commodity or commodities to be purchased (make, model, description):

12x12 Windshape WindWall system

2. Explanation of the need to be fulfilled by this item(s), how is it unique from all other options, and why it is the only one that can meet the specific needs of the department:

The department requires a windwall system to support controlled aerodynamic and environmental testing of uncrewed aircraft systems (UAS) and associated propulsion and control subsystems. This capability is essential for conducting laboratory-grade, repeatable testing under variable and programmable wind conditions that accurately simulate real-world operating environments.

The requested system is unique in that it provides free-flight, programmable wind field generation that can be precisely controlled and coupled with computational fluid dynamics (CFD) modeling. This enables advanced testing scenarios that cannot be replicated using traditional wind tunnels or standard environmental testing equipment. The system also integrates specialized hardware and software to allow real-time adjustment of wind conditions and seamless interaction with existing research platforms.

No other known system offers this combination of customization, integration capability, and laboratory-grade performance required to meet the project's technical objectives. As a result, this solution is the only option capable of fulfilling the department's needs without significant compromise to research quality, schedule, or program outcomes.

3. Name of company/individual selling the item and why that source is the only possible source that can provide the required item(s):

Tyto Robotics, Inc. – There are a lack of equivalent alternatives and traditional wind tunnels or fan systems do not provide the same combination of features required by the sponsor. The Windshape Windwall system is proprietary technology produced and supplied exclusively by Tyto Robotics and its authorized distributors.

4. Estimated cost of item(s) and an explanation why the amount to be expended is considered reasonable:

$1,130,474.00, which includes the design, fabrication, delivery, and integration of a highly specialized, laboratory-grade system capable of generating programmable wind fields for free-flight testing, as well as associated software and hardware components.
The cost is considered reasonable based on several factors:

- The system is a highly specialized, custom-engineered solution with integrated hardware and software designed to meet unique research requirements. It is not a commercial off-the-shelf product.
- The pricing is consistent with previous procurements and historical pricing obtained from the vendor, with current costs reflecting reasonable increases due to inflation and market conditions.
- Extensive market research and collaboration with peer institutions, federal agencies, and industry partners confirmed that no alternative system provides the same level of customization, integration, and laboratory-grade performance, reinforcing that the price reflects a unique capability.
- The quoted cost aligns with government-funded project expectations, and supporting pricing documentation has been provided as part of the funding allocation for the firm-fixed-price (FFP) contract.
- The investment supports critical research capabilities and avoids the significantly higher cost, time, and technical risk associated with attempting to design and develop a comparable system internally.

Based on these considerations, the cost is determined to be fair and reasonable for the scope, complexity, and unique capabilities of the system.

5. Explanation of the efforts taken by the department to determine this is the only source and the efforts used to obtain the best possible price:

Raspet has done extensive market analysis for this capability and has procured and integrated such a system through research and development with this company on past efforts. In addition, we have partnered with other universities, federal agencies, and private industry to examine if any system has the customization and software/hardware integration that can provide laboratory grade, free flight, programmable wind field generation that couples with computational fluid dynamic modeling. No such system exists outside of WindShape. We worked with WindShape in the past on pricing and current costs track acceptable increases due to inflation. Additionally, pricing evidence quotes have been provided as proof of funding allocation for FFP contract from the government customer.

Any person or entity that objects and proposes that the commodity listed is not sole source and can be provided by another person or entity shall submit a written notice to:

Jennifer Mayfield, CPPO
Director of Procurement Services, Chief Procurement Officer
jmayfield@procurement.msstate.edu
Subject Line must read “Sole Source Objection”

The notice shall contain a detailed explanation of why the commodity is not a sole source procurement. Appropriate documentation shall also be submitted if applicable.

If after a review of the submitted notice and documents, MSU determines that the commodity in the proposed sole source request can be provided by another person or entity, then MSU will withdraw the sole source request publication from the procurement portal website and submit the procurement of the commodity to an advertised competitive bid or selection process.

If MSU determines after review that there is only one (1) source for the required commodity, then MSU will appeal to the Public Procurement Review Board. MSU will have the burden of proving that the commodity is only provided by one (1) source.

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