

Mississippi State University

Notice of Proposed Sole Source Purchase

256-088

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):
Dynamic Soaring (DS) Short-Range Planner and path-following software (binary implementation), including associated licensing and up to 50 hours of engineering support for integration, configuration, and testing. The software is designed for real-time, embedded execution and includes compatibility with existing system architecture and interfaces.

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 dynamic soaring planning and path-following capability that can be deployed in a real-time, embedded flight environment to support project objectives under the current award. Specifically, the system must provide energy-aware trajectory generation tailored to aircraft-specific parameters, operate reliably under non-ideal conditions, and integrate with existing platform architecture.

The requested solution is unique in that it delivers a hardened, Jetson-compiled binary implementation with demonstrated real-time performance on embedded hardware, including operation on an NVIDIA Jetson Orin NX. It provides a runtime API for critical control parameters and has demonstrated the ability to achieve significant power efficiency improvements under representative conditions. Additionally, it includes established integration with ROS 2-based systems and has already been validated through prior technical demonstration with the project team.

This combination of demonstrated performance, embedded deployment capability, integration maturity, and robustness under operational constraints is not available from other sources. Use of this solution enables the project to accelerate testing timelines by approximately six months and allows internal personnel to remain focused on complementary technical efforts. Without this capability, the project would face delays, increased technical risk, and duplication of development effort.

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

The proposed vendor is Clipperton Labs, which is the sole developer and provider of the required dynamic soaring planning software and associated integration support.

Clipperton Labs is the only known source that offers this specific solution in a binary-only, embedded-ready format with the demonstrated performance characteristics and system compatibility required for this project. The software is proprietary and not commercially available through resellers or third-party distributors.

Additionally, the vendor has unique expertise in the development, configuration, and integration of this software, and is therefore the only source capable of providing the required engineering support (up to 50 hours) necessary to ensure successful deployment, tuning, and testing within the existing system architecture.

No other vendor has been identified that can provide a functionally equivalent solution with the same level of demonstrated maturity, compatibility, and readiness for immediate integration.

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

The estimated cost for the software license and associated engineering support is \$150,000.

The cost is considered reasonable based on several factors:

- The solution includes both specialized proprietary software and dedicated engineering support for integration, configuration, and testing.
- The software has already demonstrated the required performance and integration capability, reducing the need for additional internal development effort.
- Utilizing this solution is expected to accelerate project timelines by approximately six months, resulting in significant cost avoidance related to personnel time and extended project duration.
- The cost is consistent with the level of technical sophistication, specialization, and performance required for real-time embedded flight applications.

Overall, the proposed expenditure represents the best value to the project when considering both direct costs and avoided development and schedule risks.

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:

The department evaluated alternative approaches, including internal development and potential external solutions, to meet the project requirements.

Internal development was determined to be impractical within the required timeframe due to current personnel workload and the complexity of achieving the necessary level of performance, robustness, and integration maturity. Pursuing this path would result in significant schedule delays and increased technical risk.

The team also assessed the availability of comparable external solutions. However, no other vendors were identified that could provide a solution with the required combination of:

- real-time embedded performance on the target hardware
- demonstrated energy-aware trajectory capabilities
- robustness under non-ideal operating conditions
- existing ROS 2–based integration compatibility

Engagement with Clipperton Labs included technical evaluation and demonstration of the software to project leadership, confirming its ability to meet requirements.

Pricing was obtained directly from the vendor and evaluated in the context of the specialized nature of the product and services, as well as the significant cost and time savings associated with avoiding in-house development. Based on this analysis, the proposed cost is considered fair and reasonable.

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.

.