

## **Expendable Hypersonic Multi-Mission Air-Breathing Demonstrator (Mayhem) Program**

### **Special Notice - Request for Information (RFI)**

**RFI Number: FA8650-20-S-6002-RFI**

**Agency: Department of the Air Force**

**Office: Air Force Materiel Command**

**Location: AFRL – Air Force Research Laboratory**

### **CONTRACTING OFFICE ADDRESS**

Department of the Air Force, Air Force Research Laboratory (AFRL) – Wright Research Site, Aerospace Systems Directorate, AFRL/RQKPA, Attn: Mr. John McClellan (Contracts), 2130 Eighth St., Bldg 45, Wright-Patterson AFB, OH 45433-7541.

### **PURPOSE:**

This Request for Information (RFI) is issued for planning purposes in accordance with FAR 15.201(e): a) The Government is conducting initial market research to identify, as potential sources, companies that may possess the expertise, capabilities, and experience to competently and competitively respond to requirements for the Expendable Hypersonic Air-Breathing Multi-Mission Demonstrator (Mayhem) Program. b) Responses to this RFI notice are not considered offers and cannot be accepted by the Government to form a binding contract. Contractors/Institutions participating in this initial market research are advised their participation in this survey does not ensure participation in future solicitations or contract awards. Moreover, the Government will not reimburse participants for any expenses associated with preparation for or participation in this survey. Respondents are solely responsible for all expenses associated with responding to this RFI.

### **INSTRUCTIONS:**

Please provide written answers to the following questions. The Government will utilize the answers to inform the acquisition strategy. The Government does not plan to further discuss questions and answers generated by this RFI with industry. Answers to these questions may be proprietary, and if so should be marked as such to keep the information for official use only with distribution authorized to DoD Components only (Distribution Statement E). The Government plans to hold an industry day, after responses have been received, to facilitate additional questions and discussion with responders.

### **WRITTEN RESPONSES:**

Electronic format is required and must be received no later than 2:00 PM Eastern Time 25 September 2020. Responses may be encrypted and password protected if you desire. Please email responses to [John.McClellan.2@us.af.mil](mailto:John.McClellan.2@us.af.mil) and [Christopher.Bender.5@us.af.mil](mailto:Christopher.Bender.5@us.af.mil). Additionally, responses may be submitted via DODSAFE ,(<https://safe.apps.mil/>), or other encrypted file transfer sites.

## **FORMAT & PAGE LIMITATION**

Your submittal should be provided on standard letter size 8-1/2 by 11 inch paper, limited to a maximum of 10 single-sided, double-spaced pages. The font for text should be Times New Roman 12-point or larger. The Responder may use oversize pages (including “foldouts”) where appropriate to contain graphic presentations. Oversize pages do not count as extra pages within the page limitations. Submitted responses should be in Microsoft Word or Adobe Acrobat format. Existing commercial documentation and product literature can also be submitted and is not subject to a page limitation. Note: **Responses must be unclassified. Responses may contain proprietary information but must be appropriately marked.**

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

“The following contains proprietary information that (name of Responder) requests not be released to persons outside the Government, except for the purposes of review and evaluation.”

Note: See Format and Page Limitations and Submission of Documentation paragraphs for additional instructions. Responses are preferred in the following format:

**TITLE:** Identify the technology area.

**SUBMITTER INFORMATION:** Responses should include the company name, potential work location(s), and the title, telephone number, and mail and e-mail addresses of a point of contact having authority and knowledge to discuss the submission.

### **OPERATIONS SECURITY (OPSEC) REQUIREMENTS:**

All contractors shall follow appropriate OPSEC measures required for this particular contract. This is required in an effort to reduce program vulnerability from successful adversary collection of possible sensitive unclassified and/or proprietary information, and violations of export control requirements. The prime contractor will ensure that all subcontractors, if applicable, conform to these requirements as required by the prime contractor. Guidance can be provided by AFRL/RQ Security as needed.

Program Protection Plan (PPP) - Any potential critical program information (CPI) generated as part of this effort will be reviewed to determine the need for a PPP.

## **INFORMATION:**

The Air Force Research Laboratory (AFRL) is interested in the design, fabrication, integration, and necessary research needed to enable a larger-scale expendable air-breathing hypersonic multi-mission flight demonstrator. The Mayhem System Demonstrator (MSD) will need to be capable of carrying larger payloads over distances further than current hypersonic capabilities allow. The payload bay will be modular and capable of carrying/delivering at least three distinct payloads in

order to execute multiple Government-defined mission sets. AFRL has previously accomplished similar research under multiple efforts including the Enhanced Operational Scramjet Technology effort (Broad Area Announcement BAA-12-07-PKP), Enabling Technologies for High-speed Operable Systems (BAA-FA8650-17-S-2002), High Speed Strike Weapon Program, and Hypersonic Air-breathing Weapon Concept Program.

To increase industry involvement and benefit from focused tasking, AFRL is considering the use of two multiple-award IDIQs to accomplish this effort. The two Indefinite Delivery/Indefinite Quantity (IDIQ) contracts would be split into groups, each encompassing one propulsion system development and vehicle development and integration. Each IDIQ contract group would share a single-cost ceiling with a multiple-award IDIQ contract scoped to each of the two focus areas: 1) larger scale propulsion development and flight-weight ground test and 2) air vehicle design and scramjet integration. Follow-on awards would include fabrication, flight test, and vehicle modification for integration of various payloads. Multiple-award IDIQ contracts would be planned under one solicitation.

Conceptually, two different air vehicle and two different propulsion contractors could be awarded each one of the multiple-award IDIQ contracts. Alternatively, a single contractor could be awarded both separate focus area contracts. Due to the nature of the research and focus areas, information sharing and resource sharing would be essential. As such, formation and agreement to an Associate Contractor Agreement (ACA) or a Consortium Agreement between the vehicle and propulsion contractors would be necessary. A similar agreement amongst all contractors is being considered.

Competition for future task order requirements after initial award is anticipated between the IDIQ contracts. The AFRL Program Manager may choose to order tasks from one of the two IDIQ contract groups based on the available funding and evidential progress towards achieving objectives.

A breakout of the focus areas and a depiction of the contract structure are provided as Attachment 1 to this RFI.

### **QUESTIONS:**

- 1) What issues or risks, if any, does industry identify with the proposed multiple-award IDIQ contract structure and IDIQ contract groups?
- 2) What issues or risks, if any, does industry identify with the requirement for an ACA or Consortium Agreement between the two awardees across the two focus areas?
- 3) AFRL would like to encourage contractor teaming across each focus area requirement. Are there any ways AFRL can facilitate teaming or structure the requirement to aid this objective?
- 4) What issues or risks, if any, does industry identify with utilizing an Other Transaction Authority contract versus a Federal Acquisition Regulation-based contract?

- 5) AFRL would like to accomplish the MSD first flight within a five year timeframe. What issues or risks, if any, does industry identify with this timeline?
- 6) What issues or risks, if any, does industry identify with standardizing a payload interface for multiple mission-set objectives to ease future payload incorporation?
- 7) The DoD has numerous component technology development efforts. What issues or risks does industry identify to technology insertion throughout the development of the integrated vehicle design?
- 8) After examining the elements of the focus areas are there any related capabilities industry identifies that should be added or addressed in the scope of this requirement?
- 9) What other issues, if any, related to this potential acquisition should AFRL address when planning this requirement?

Please submit responses in accordance with the instructions for written responses included herein.

**REQUESTS FOR CLARIFICATION / POINTS OF CONTACT:**

A responder may request clarification in writing from the Contracting Office for any requirement that is unclear by sending an e-mail to the Contracting Point of Contact:

[John.McClellan.2@us.af.mil](mailto:John.McClellan.2@us.af.mil)

Any requests for clarification must be received no later than seven (7) business days prior to the close of this RFI in order to receive a timely response. Clarifications may be posted on the RFI announcement website to benefit all interested responders. Interested responders are encouraged to periodically check the website during the response period for clarifications.

**ATTACHMENT:**

Attachment 1 Mayhem Focus Areas and Contract Structure