

JUSTIFICATION FOR OTHER THAN FULL AND OPEN COMPETITION (JOFOC)
(In accordance with Federal Acquisition Regulation (FAR) 6.3 – Other than Full and Open Competition)

- 1. This document is a justification for other than full and open competition prepared by NASA's Armstrong Flight Research Center (NASA AFRC):**
- 2. The nature and/or description of the action being approved:**

This added work requirement is to continue work that was performed under Contract NND11AS04C to investigate the combined efficacy of separation assurance and sense and avoid technologies and concepts. That work exposed limitations in the current understanding of failure rates and conditions for separation assurance. The objective of this requirement is to utilize the surveillance data collected during the 2013 self separation flight test and upcoming 2014 collision avoidance flight test to tune and validate the surveillance sensor models developed in 2012. The validated surveillance sensor models would provide NASA the capability to perform sense and avoid encounter modeling in simulation with surveillance data that accurately reflects the uncertainties of the real sensors.

Background: In 2012, Honeywell developed a set of ideal surveillance sensor models to generate the surveillance data from Traffic Alert and Collision Avoidance System (TCAS), Automatic Dependent Surveillance – Broadcast (ADS-B), and radar given aircraft tracks as inputs. At the time, the real world surveillance data required to tune the sensors models and to validate their outputs was not available. In late 2013, Honeywell was involved in a flight test where TCAS, ADS-B, and radar data was collected. Further flight testing in 2014 will collect more. This data can be used to improve the performance of the surveillance sensor models and validate them against real world encounters.

- 3. Description of the supplies or services required, including an estimated value:**

DAA Sensor Model Validation using Flight Test Data
Estimated Value: \$365,000

- 4. Statutory authority permitting other than full and open competition:**

The statutory authority for this action is 10 U.S.C. 2304 (c) (1), Only One Responsible Source.

- 5. A demonstration that the proposed contractor's unique qualifications or the nature of the acquisition requires use of the authority cited:**

Honeywell developed parameterized models of Detect and Avoid (DAA) surveillance sensors under the current contract Statement of Work. This action would extend that effort to validation of the sensor models using data collected during flight tests of actual DAA sensors. The contractor has two unique qualifications: they developed the original sensor models and so will not need to spend additional time understanding those models; they collected flight test data using the same types of sensors that they previously provided

models for and are participating in the next flight test that should collect the final validation data.

6. Description of the 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 Federal Acquisition Regulation (FAR) 5.202:

A notice of proposed contract action was posted on Federal Business Opportunities on July 21, 2014.

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

The Contracting Officer determined the price fair and reasonable by applying cost and price analysis techniques using other than certified cost and pricing data provided by the contractor.

8. Description of the market research conducted, and the results, or a statement of the reasons market research was not conducted:

The Contracting Officer Representative for this contract has had extensive discussions with government, industry and academic institutions over the last two years at major Unmanned Aircraft System-related forums including RTCA Special Committee (SC)-203 and SC-228, the Association of Unmanned Vehicle Systems International conferences, and the Department of Defense Sense-And-Avoid (SAA) Science and Research Panel. During those discussions it has been repeatedly recognized that to ensure Unmanned Aircraft System (UAS) SAA systems are capable of safely interoperating with non-cooperative aircraft it is necessary to model the discrete tracks that would be collected by the DAA sensor system on such aircraft. Honeywell developed this sensor model capability and no other equivalent models have been developed by other members of the UAS community.

9. Other facts supporting the use of other than full and open competition:

More than a dozen proposals were received for the original NRA solicitation, and only Honeywell's met the criteria for award, including demonstration of an understanding of the goal of the research and clearly articulating how the traffic modeling efforts of the Tasks would be carried out. Based on that review of the ability of contractors to perform the modeling, along with the expertise they have developed during the three years of the existing contract, it has been determined that no other contractor could accomplish the work to meet the Project's FY15 milestone deadlines.

The Government has expended three years of effort and \$1.3M to fund this project; the same amount of funds and the amount of time would be duplicated, if another source was selected to perform this task.

10. Sources, if any, that expressed, in writing an interest in the acquisition:

No sources expressed an interest in writing for this acquisition.

11. The actions the Agency may take to remove or overcome any barriers to competition before any subsequent acquisition for the supplies or services required:

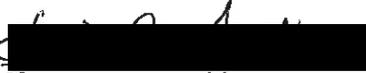
There are no actions currently available by the agency to remove or overcome barriers to competition for this requirement based on the rationale provided above.

TECHNICAL DIRECTORATE: I certify that the facts presented in this justification are accurate and complete.


Signature

8/20/14
Date

CONTRACTING OFFICER: I certify that this justification is accurate and complete to the best of my knowledge and belief.


Signature

08/20/14
Date